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COPY

**SITE INVESTIGATION
REPORT C-8271-02:03**

**COCA-COLA BOTTLING COMPANY
OF NORTHERN NEW ENGLAND, INC., PROPERTY
ROUTE 14
EAST MONTPELIER, VERMONT**

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**COCA-COLA BOTTLING COMPANY
OF NORTHERN NEW ENGLAND, INC., PROPERTY
ROUTE 14
EAST MONTPELIER, VERMONT**

PREPARED FOR

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PREPARED BY

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June 30, 1993

TABLE OF CONTENTS

EXECUTIVE SUMMARY	
Purpose	i
Work Scope	i
Key Findings	i
Recommendation	iii
INTRODUCTION	1
Purpose	1
Work Scope	1
Site Characterization	2
SITE BACKGROUND INFORMATION	3
Site History	3
Previous Investigations	4
Environmental Records and Information Review	5
Site Description	10
HYDROGEOLOGICAL INVESTIGATION	11
Introduction	11
Methodology	12
Results	16
DISCUSSION	18
Hydrogeology	18
Nature and Extent of Detected Releases	19
LIMITATIONS	20
REFERENCES CITED	21
FIGURES	
FIGURE 1. Index Map Showing the Location of the Subject Property	
FIGURE 2. Site Layout Map of Subject and Adjacent Properties	
FIGURE 3. Locations of Private Drinking Water Wells Within 2,000± Feet of the Subject Property	
FIGURE 4. Site Plan of the Subject Property	
FIGURE 5. Interpretive Cross Section of Site	
APPENDICES	
APPENDIX A - State of Vermont Records and Correspondence	
APPENDIX B - Photographic Documentation	
APPENDIX C - Site Specific Health and Safety Plan	
APPENDIX D - Boring Logs and Monitoring Well Construction Details	
APPENDIX E - Site Survey Data	
APPENDIX F - Slug Test Theory and Data	
APPENDIX G - Analytical Results	

LIST OF TABLES

TABLE I.	Abutters to the Subject Property.	3
TABLE II.	History of Property Owners.	3
TABLE III.	Registered Underground Storage Tank Facilities.	6
TABLE IV.	Registered Hazardous Waste Generators.	6
TABLE V.	Listed Hazardous Sites.	7
TABLE VI.	DEC Water Resource Division Basic Well Data List.	9
TABLE VII.	Summary of Test Boring Logs and Well Placement.	12
TABLE VIII.	Monitoring Well Specifications.	14
TABLE IX.	Static Water Level Data.	16
TABLE X.	Hydraulic Conductivities.	16
TABLE XI.	Field Parameters for Ground Water from the Monitoring Wells.	17

EXECUTIVE SUMMARY

The subject property is located in a mixed residential, commercial and industrial setting on the west of Route 14 in East Montpelier, Vermont. The property is currently the site of a Coca-Cola distribution warehouse and sales office.

Purpose

The purpose of the investigation was to collect sufficient information to assess the extent of a documented release of gasoline and diesel fuel to the environment on the subject property.

Work Scope

The work scope included:

1. A review of the ownership and site history of the subject property, and ownership and key information for abutting properties; a review of local, state and federal environmental records for the subject and adjacent properties, and a review of previously completed environmental investigations for the subject property.
2. The advancement of sixteen test borings; the collection and screening of soil samples for the presence of photoionizable compounds; and the installation of a groundwater monitoring well in four of the borings.
3. A survey of the location and elevation of each test boring and monitoring well to a common datum.
4. The performance of rising head slug tests in two selected monitoring wells.
5. The collection and analysis of two rounds of groundwater samples from the four monitoring wells for the presence of purgeable aromatic hydrocarbons, oil and grease, and total petroleum hydrocarbons.
6. The interpretation of the data collected to describe the site geology, the inferred direction of groundwater flow, the presence of photoionizable compounds in the soil, and the presence of purgeable aromatic hydrocarbons, oil and grease, and total petroleum hydrocarbons in the ground water.

Key Findings

1. The 5.3± acre property has been the site of a Coca-Cola distribution warehouse and sales office since 1973. The property was formerly undeveloped land associated with the LePerle farm.
2. Drinking water is supplied to the subject property by the Crystal Springs Water Company, and sewage disposal is to an on-site septic system. The subject property neighborhood is serviced either by the Crystal Springs system, or private drinking water supply wells; all neighboring properties utilize on-site septic systems. There are five private drinking water wells within 1,000± feet of the subject property.

3. An underground storage tank closure assessment of the subject property was conducted by SHEVENELL-GALLEN and Associates, Inc. on November 5 and 6, 1992. Two potential sources of groundwater contamination were detected during the assessment: a release from the underground gasoline storage tank dispenser system located near the northeast corner of the property; and a release from the underground diesel fuel storage tank dispenser system located near the southwest corner of the property.
4. A Vermont Sites Priority System report for the subject property was submitted to the Department of Environmental Conservation on January 28, 1993. This survey of potential receptors indicated the following: at least five private drinking water wells are located within $0.25\pm$ miles of the subject property; the subject property is not located within a wellhead protection zone; there are no surface water intakes for drinking purposes within $2.0\pm$ miles of the subject property; and there are 11 buildings of mixed commercial, industrial, and residential use within $0.25\pm$ miles of the subject property.
5. Soils on the subject property consist of glacio-lacustrine (lake-bottom) silts and clays with fine sandy laminae, overlying a sequence of homogeneous sandy silt. A layer of fine to medium sand is present in the silt/clay layer 10 to $15\pm$ feet below the ground surface throughout the site. Phyllitic bedrock is assumed to be present $200\pm$ feet below the ground surface, based on drilling logs from nearby private water supply wells.
6. Ground water was encountered 29 to $55\pm$ feet below the ground surface in the monitoring wells, and is inferred to flow to the north-northwest towards the Winooski River.
7. Field screening results of the split-spoon samples from the test borings for the presence of photoionizable compounds ranged from 0.0 to 524 parts per million, as referenced to benzene. The highest concentrations of photoionizable compounds were detected in soil samples collected near the former gasoline underground storage tank excavation, 5 to $7\pm$ feet below the ground surface. The results indicate a localized zone of photoionizable compounds near the excavation, from 5 to $12\pm$ feet below the ground surface.
8. No free product was detected in the initial bailer collected from the four monitoring wells at the times the groundwater samples were collected.
9. A trace (less than 5 micrograms per liter) of toluene was detected in the groundwater sample collected from monitoring well SG-3 on April 30, 1993, and was likely an artifact of the test boring program. No purgeable aromatic hydrocarbons were detected in the groundwater samples collected from the monitoring wells during the second sampling round on May 17, 1993.
10. Total petroleum hydrocarbons were detected in the groundwater samples collected from monitoring wells SG-3 and SG-4 on April 30, 1993 (at concentrations of 132 and 107 micrograms per liter, respectively), and were likely artifacts of the test boring program. No total petroleum hydrocarbons were detected in the groundwater samples collected from the monitoring wells during the second sampling round on May 17, 1993.
11. No oil and grease was detected in the groundwater samples collected from the four monitoring wells on April 30 and May 17, 1993.
12. The Messier House Moving property, abutting the subject property to the south and topographically upgradient, is the site of diesel vehicles, a vehicle maintenance building and heavy construction equipment. The Winchester Collision facility, located $0.15\pm$ miles south-southeast and topographically upgradient of the subject property, is a hazardous waste generator. Based upon the inferred direction of groundwater flow on the subject property, if

a release of petroleum or hazardous substances has impacted the groundwater quality on either of these properties, then the release has the potential to impact the groundwater quality on the subject property.

13. Three active registered underground storage tank facilities, two hazardous waste generators, and two properties that may handle petroleum or hazardous substances are also located within 0.25± miles of the subject property. Assuming groundwater flow is controlled by local topography, and based on the inferred direction of groundwater flow on the subject property, if a release of petroleum or hazardous substances has impacted the groundwater quality on any of these properties, then the release is not likely to impact the groundwater quality on the subject property.
14. One private drinking water well is located 1,000± feet hydraulically downgradient of the subject property, on the Tony Dutill property. Based on the observations and analytical results of this site assessment, the potential threat to groundwater quality at this receptor is low.

Recommendation

A copy of this site investigation should be submitted to the Vermont Department of Environmental Conservation at the address below.

Ms. Lynda Wedderspoon, Site Manager
Sites Management Section
Hazardous Materials Management Division
Department of Environmental Conservation
Agency of Natural Resources
103 South Main Street / West Building
Waterbury, Vermont 05671-0404

INTRODUCTION

A site investigation of the Coca-Cola Bottling Company of Northern New England, Inc., property, located on Route 14 in East Montpelier, Vermont, was conducted for Mr. Edward Bryan of Coca-Cola Bottling Company of Northern New England, Inc., from April 26 through May 18, 1993.

Purpose

The purpose of the investigation was to collect sufficient information to assess the extent of a documented release of gasoline and diesel fuel to the environment on the subject property. The areas of potential environmental concern, as identified in SHEVENELL-GALLEN and Associates, Inc., *Underground Storage Tank Closure Report C-8271-01*, dated December 30, 1992, include:

1. A release associated with the former 10,100-gallon underground gasoline storage tank and associated product dispenser; and
2. A release associated with the former 12,000-gallon underground diesel storage tank and associated product dispenser.

Work Scope

The work scope included:

1. A review of the ownership and site history of the subject property, and ownership and key information for abutting properties; a review of local, state and federal environmental records for the subject and adjacent properties, and a review of previously completed environmental investigations for the subject property.
2. The advancement of sixteen test borings; the collection and screening of soil samples for the presence of photoionizable compounds; and the installation of a groundwater monitoring well in four of the borings.
3. A survey of the location and elevation of each test boring and monitoring well to a common datum.
4. The performance of rising head slug tests in two selected monitoring wells.
5. The collection and analysis of two rounds of groundwater samples from the four monitoring wells for the presence of purgeable aromatic hydrocarbons, oil and grease, and total petroleum hydrocarbons.
6. The interpretation of the data collected to describe the site geology, the inferred direction of groundwater flow, the presence of photoionizable compounds in the soil, and the presence of purgeable aromatic hydrocarbons, oil and grease, and total petroleum hydrocarbons in the ground water.

This investigation is subject to the limitations stated in the *Limitations* section and to the *Master Consulting Agreement P-8242-01*, dated October 5, 1992.

Site Characterization

The subject property is located in a mixed residential, commercial and industrial setting on the west side of Route 14 in East Montpelier, Vermont (Figure 1). The 5.3± acre property is the site of a Coca-Cola distribution warehouse and sales office.

The pre-engineered warehouse building on the property is a single-story, 17,000± square-foot steel-framed structure, set upon a concrete slab foundation. The attached shed along the south wall of the warehouse occupies 250± square feet, and is a steel-framed structure set upon a concrete slab foundation. The building is heated by an oil-fired forced hot air furnace, located in a utility room adjacent to the office area within the warehouse. Fuel for the furnace is stored in two 275-gallon above-ground storage tanks, also located in the interior of the warehouse. There are no known underground storage tanks currently located on the subject property.

Drinking water is supplied to the subject property by the Crystal Springs Water Company, and sewage disposal is to an on-site septic system. The subject property neighborhood is serviced either by the Crystal Springs system, or private drinking water supply wells; all neighboring properties utilize on-site septic systems. There are five private drinking water wells within 1,000± feet of the subject property; five public water supply wells are located between 0.75± miles and 2.0± miles north and northeast of the subject property.

According to the *Surficial Geologic Map of Vermont*, published by the United States Geologic Survey (1970), the area of the subject property is underlain by post-glacial lacustrine (lake) deposits of the Burlington and Shelbourne Drifts, which are characterized by a mixture of clay and silt. This type of soil tends to be poorly drained and has a low permeability to groundwater flow. Regionally, the highland areas in the neighborhood of the subject property are generally covered by 0 to 15± feet of sandy tills, while the lowland drainage areas are typically underlain by 0 to 200± feet of lake-deposited silts. Specifically, the topographic high east of the subject property across Route 14 is underlain by a thin layer of highly permeable eolian (dune) sands.

Based on the report titled *Groundwater Resources of the Barre-Montpelier Area, Vermont*, published by the Vermont Department of Water Resources and the United States Geologic Survey (Hodges, A.L., et al., 1976), the subject property is not located on a mapped sand and gravel aquifer. According to the report *Geology for Environmental Planning in the Barre-Montpelier Region*, published by the Vermont Department of Water Resources and the United States Geologic Survey (Stewart, David P., et al., 1971), groundwater is a "limited resource" in the neighborhood of the subject property due to the predominantly clay-rich overburden.

According to the map *Bedrock Geology of the Montpelier Quadrangle, Vermont*, published by the United States Geologic Survey (Geologic Quadrangle Map No. GQ-79, Wallace M. Cady, 1956), the area of the subject property is underlain by bedrock consisting of the interbedded phyllites and meta-limestones of the Waits River Formation. This unit is highly fractured, vertically folded, and cut by igneous dikes, with structural features trending regionally from southwest to northeast. Bedrock in the lowland areas in the neighborhood of the subject property typically lies 200± feet below the ground surface; no bedrock outcrops were observed on the subject property.

The topography in the neighborhood of the subject property generally slopes downward to the west to Route 14, and then to the southwest along an unnamed drainage stream. The topography of the property is generally level in the area of the warehouse, and drops steeply to the west and south into drainage swales. The topography of developed portion of the subject property varies from at grade to generally above grade relative to Route 14. The majority of the property not occupied by the warehouse or asphalt paving is covered by lawn or meadow grass.

According to the records at the Town of East Montpelier Assessor's Office, abutters to the subject property (Figure 2) and their uses include:

TABLE I. Abutters to the Subject Property.

Abutter	Land Use
North (across access road): Washington Electric Cooperative, Inc.	undeveloped land
East (across Route 14): Clyde Holt	residence; undeveloped
Southeast (across Route 14): J.A. LeGuerre	Winchester Collision
South: Norman L. Messier	Messier House Moving
Southwest: Whistling Arrow Archery Club	clubhouse; undeveloped
West: Douglas Bressette	Montpelier Wood Works, Inc. (vacant building)

Three active registered underground storage tank facilities and three hazardous waste generators are located within 0.25± miles of the subject property, and are discussed in the *Environmental Records and Information Review* section below.

SITE BACKGROUND INFORMATION

Site History

According to the records at the Town of East Montpelier Assessor's Office, the subject property is listed on Tax Map 12 as Lot 38, and has been owned by the Coca-Cola Bottling Company of Northern New England, Inc., since October 31, 1986. Recent ownership of the subject property was recorded as follows:

TABLE II. History of Property Owners.

Property Owner	Date of Transfer
Coca Cola Bottling Company of NNE, Inc.	October 31, 1986
Coca Cola Bottling Company of New York, Inc.	July 20, 1972
Washington Electric Cooperative, Inc.	N/A
LaPerle Family Farm	N/A

Note: N/A = Not Available.

The previously undeveloped property became the site of the Coca-Cola regional distribution warehouse and field sales office in 1973. A 10,100-gallon underground gasoline storage tank and a 4,000-gallon No. 2 fuel oil storage tank were installed at the site in 1973. A 12,000-gallon

underground diesel storage tank was installed at the site in 1982. All three tanks were removed from the site in 1992.

Previous Investigations

Environmental investigation reports on file with the Vermont Agency of Natural Resources, Department of Environmental Conservation (DEC), Hazardous Materials Management Division for the subject property were reviewed, and are summarized below.

Underground Storage Tank Closure Assessment

An underground storage tank closure assessment of the subject property was conducted by SHEVENELL-GALLEN and Associates, Inc. (*Report C-8271-01*, dated December 30, 1992) to evaluate the site with respect to potential liability exposure as expressed in Vermont Statutes Annotated Title 10, Chapter 59 the *Vermont Underground Liquid Storage Tank Law*.

The underground storage tank closure assessment included: the observation of the removal of three underground (gasoline, diesel and No. 2 fuel oil) storage tank systems; the inspection of the integrity of the tanks; the on-site screening of soil samples for the presence of photoionizable compounds; and the collection and analyses of five soil samples for the presence of volatile organic compounds, total petroleum hydrocarbons, and total gasoline. Key findings noted in the report were as follows:

1. The three tanks were excavated and removed from the ground on November 5 and 6, 1992. No holes, punctures, or seam leaks were observed on the tanks. Odors and soil staining indicating historic releases of petroleum were noted in the area of the product dispensers associated with the gasoline and diesel fuel storage tanks.
2. Levels of photoionizable compounds detected in the soil samples collected from the excavations ranged from: 0.0 to 1,460 parts per million (ppm) in the gasoline tank excavation; 0.0 to 166 ppm in the diesel fuel tank excavation; and 0.7 to 1.2 ppm in the No. 2 fuel oil tank excavation. A total of 845± tons of petroleum contaminated soil was stockpiled at the site, and transported to the MTS, Inc., facility in Littleton, New Hampshire, between December 14 to 18, 1992, for asphalt batching. An unknown volume of soil was left in place due to the anticipated volume, the need for vehicle access to the building, and limited storage space.
3. Two potential sources of groundwater contamination were detected during of the UST closure assessment: a release from the underground gasoline storage tank dispenser system located near the northeast corner of the property; and a release from the underground diesel fuel storage tank dispenser system, located near the southwest corner of the property.

Vermont Sites Priority System (VSPS) Report

A VSPS report for the subject property was compiled by THERMO Consulting Engineers, Inc., of Williston, Vermont (dated January 28, 1993), for the Vermont DEC, Hazardous Materials Management Division, for the purpose of assessing the potential environmental impact of the documented release of gasoline and diesel fuel on the subject property. Key findings noted in the report were as follows:

1. There are at least 5 public and 131 private drinking water supply wells located within 2.0± miles of the subject property; none of the public wells and five of the private wells are located within 0.25± miles of the subject property. The nearest bedrock well is located on the abutting Holt property, 0.05± miles northeast of the subject property; the nearest overburden well is located 1.4± miles south of the subject property. The subject property is not located within a wellhead protection zone.
2. There are no surface water intakes for drinking purposes within 2.0± miles of the subject property. The nearest surface water discharge point to the Winooski River is located 1.9± miles west of the subject property.
3. There are 11 buildings of mixed commercial, industrial and residential use within 0.25± miles of the subject property. There are no other potential sensitive receptors within 2.0± miles of the property.

Environmental Records and Information Review

Environmental Data Search-EDS®

As part of this investigation, the State of Vermont and United States Environmental Protection Agency records have been researched to identify facilities and sites with a history of use of petroleum or hazardous substances that could impact the subject property, if a release occurred. The source documents for this Environmental Data Search-EDS® include the following:

Vermont Agency of Natural Resources, Department of Environmental Conservation Files

1. Vermont Registry of Underground Storage Tanks (dated January 18, 1993).
2. RCRA Handlers in Vermont (dated November 18, 1992).
3. Vermont Hazardous Sites List (dated September 16, 1992).
4. Spill List (December 14, 1992).
5. UST Program Files.
6. Hazardous Waste Management Files.

United States Environmental Protection Agency (EPA) Records

1. Comprehensive Emergency Response, Compensation, and Liability Information System (CERCLIS) List (dated October 16, 1992).
2. National Priorities List (dated October 14, 1992).

In addition, the U.S. Geological Survey topographic maps (*Barre East, Barre West, Montpelier and Plainfield, Vermont*, 7.5-minute quadrangles, 1968-88); Federal Emergency Management Agency *National Flood Insurance Program* Map No. 500111-0016-B, dated May 2, 1983; and the United States Department of the Interior *National Wetlands Inventory Map for the Plainfield 15-minute Quadrangle* (1977), were also reviewed as part of this investigation.

Information obtained from the researched records is outlined below. This data search should not be considered as inclusive of all the information available within the neighborhood (defined as within 0.25± miles of the subject property) of the subject property.

State of Vermont Records

Vermont Registry of Underground Storage Tanks. This is a listing of underground storage tank facilities registered with the Vermont DEC underground storage tank program. Registered underground storage tank facilities located within 0.25± miles of the subject property are as follows:

TABLE III. Registered Underground Storage Tank Facilities.

Facility	Address	Tanks (#)	Size (gallons)	Contents	Year Installed
Subject Property:					
Coca-Cola	Route 14	1	12,000	diesel	1982 ^
		1	10,000	gasoline	1973 ^
		1	4,000	No. 2 fuel oil	1973 ^
Abutting Properties:					
No facilities are listed for the abutting properties.					
Neighboring Properties:					
Huntington Homes, Inc.	Route 14	1	5,000	diesel	1989
Northlight Studio Press, Inc.	Route 14	1	2,000	No. 2/4 fuel	1980
		1	1,000	No. 2/4 fuel	1971
Washington Electric Corporation	Route 14	1	10,000	gasoline	1974
		1	2,000	diesel	1974 ^
		1	2,000	diesel	1988

Note: ^ = removed; permanently out of service.

RCRA Handlers in Vermont. This is a listing of hazardous waste generators registered in Vermont under the Resource Conservation and Recovery Act (RCRA), compiled by the Vermont DEC. The following facilities, located within 0.25± miles of the subject property, are registered as hazardous waste generators:

TABLE IV. Registered Hazardous Waste Generators.

Facility	Address	VT ID Number	Type of Generator
Subject Property:			
No facilities are listed for the subject property.			
Abutting Properties:			
No facilities are listed for the abutting properties.			
Neighboring Properties:			
Northlight Studios, Inc.	Route 14	12-07-001	S
Washington Electric Coop., Inc.	Route 14	12-07-008	S
Winchester Collision	Route 14	12-07-007	S

Note: S = <100 kilograms per month.

This is a listing of facilities that generate or dispose of hazardous waste and is not a record of facilities with environmental infractions.

Vermont Hazardous Sites List. This is a listing published by the Vermont DEC and includes petroleum as well as non-petroleum sites. The following property is listed as a hazardous site:

TABLE V. Listed Hazardous Sites.

Facility	Address	ID Number	Project Status
<hr/>			
Subject Property: Coca-Cola	Route 14, East Montpelier	92-1330	USTs removed, soil impacted; further investigation in progress.
Abutting Properties: No sites are listed for the abutting properties.			
Neighboring Properties: No sites are listed for the neighboring properties.			
<hr/>			

Vermont Spill List. This is a listing of spills registered in Vermont, compiled by the DEC. No listed spill incidents were located within 0.25± miles of the subject property.

Underground Storage Tank Program Files. *Coca-Cola (Subject Property), Route 14, State File No. 4766653, LUST Site No. 921330.* According to a *Vermont Underground Storage Tanks Program* closure assessment form dated November 16, 1992, releases of gasoline and diesel fuel in the areas of the product dispensers on the subject property resulted in soil contamination of an unknown extent. Approximately 644 cubic yards of soil were stockpiled at the site for later disposal by off-site asphalt batching; an unknown volume of contaminated soil was left in place pending a Site Assessment of the property under the Vermont Petroleum Cleanup Fund. Copies of the facility registration and closure assessment form for the subject property are included in *Appendix A*.

Northlight Studio Press, Route 14, State File No. 4790565. According to a *Vermont Notification for Underground Storage Tanks* form, dated March 5, 1986, two No. 2 fuel oil tanks listed for this site are located on the north side of the east wing of the building on the property.

Huntington Homes, Inc., Route 14, State File No. 0001681-793. According to a *Vermont Notification for Underground Storage Tanks* form, dated September 5, 1989, a 5,000-gallon diesel fuel tank was installed at the site on June 15, 1989, at a location 100± feet south of the west end of the manufacturing building on the property.

Washington Electric Cooperative, Inc., Route 14, State File No. 0001019. According to a *Vermont Notification for Underground Storage Tanks* form, dated January 21, 1988, one 2,000-gallon underground diesel fuel storage tank was removed from the Washington Electric site on that date. No soil contamination was observed, and two monitoring wells were already in place at the site; no further actions were required by the DEC at that time.

Hazardous Waste Management Files. *Coca-Cola, Route 14.* According to a status determination inspection by a representative of the State of Vermont, dated April 1, 1988, the subject property is not a generator of hazardous wastes. A copy of the facility inspection form is included in *Appendix A*.

Northlight Studio Press, Route 14. According to a status determination inspection by a representative of the State of Vermont, dated July 12, 1988, Northlight Studio Press is a small-quantity generator of waste inks, solvents, hydraulic oil, waste machine oil, and photochemical compounds. Until 1984, all liquid wastes were discharged directly to an on-site septic leachfield;

by 1988, the wastes were being stored on-site in 30-gallon drums. The representative instructed the owner to properly store and dispose of the noted wastes.

Washington Electric Cooperative, Inc., Route 14. According to a status determination inspection by a representative of the State of Vermont, dated September 20, 1989, Washington Electric is a small-quantity generator of waste polychlorinated biphenyl (PCB) oils, spent solvents, waste motor oil, and batteries. The PCB oils were stored on-site in a 500-gallon skid tank; the waste oil was burned in an energy-recovery system; the spent solvent was returned to the distributor; and the batteries were sold as scrap. A concrete chamber for the PCB-oil tank was being planned at that time; numerous transformers were stored at the site. No actions were taken by the representative at that time.

Winchester Collision Repair, Route 14. According to a status determination inspection by a representative of the State of Vermont, dated December 14, 1988, Winchester Collision is a small-quantity generator of spent paint thinners and waste motor oil, which were stored on-site in 5-gallon cans. The representative instructed the owner to properly store and dispose of the noted wastes.

United States Environmental Protection Agency Records

EPA CERCLIS List. The CERCLIS list is a listing of sites currently identified under the Comprehensive Environmental Response, Compensation, and Liability Act (SuperFund). There are no listed sites within 1.0± miles of the subject property.

EPA National Priorities List (NPL). This is a ranking of CERCLA sites, created by the EPA, based primarily on each state's designation of top priority sites for cleanup, and the potential of each site to endanger the public health or the environment. There are no listed sites within 1.0± miles of the subject property.

Other Information Sources

U.S. Geological Survey Topographic Map. The warehouse on the subject property and several other buildings along Route 14 are visible on the map, including the abutting Washington Electric Cooperative, Messier House Moving, and Winchester Collision facilities, and the Holt residence. Topography in the area of the subject property slopes generally downward to the west, toward the Winooski River; local surface drainage is to the southwest.

Flood Map. The subject property is located outside the 500-year flood plain associated with the Winooski River.

Wetlands Map. No federally designated wetlands are located on, or adjacent to, the subject property.

State and Municipal Contacts

Vermont Department of Fish and Wildlife. According to a May 18, 1993, correspondence from Mr. Everett Marshall, no significant natural communities, or rare, threatened, or endangered species, are recorded for the neighborhood of the subject property. However, Mr. Marshall indicated that a biological evaluation of this area has not been made by the Vermont Nongame and Natural Heritage Program (NNHP), and a site-specific survey of the subject property would be

necessary to determine the presence or absence of any regulated species. A copy of this letter is included in *Appendix A*.

Vermont Department of Environmental Conservation. Solid Waste Division. In a conversation on April 29, 1993, Ms. Kathy Perkins of the Vermont DEC, Solid Waste Division, indicated that the state had no record of landfills or solid waste sites within 1.0± miles of the subject property.

Water Resources Division. In a conversation on May 18, 1993, Mr. James Ashley of the Vermont DEC, Water Resources Division, indicated that the state lists eight private drinking water wells located within 2,000± feet of the subject property. These well locations, listed below, are presented in Figure 3.

TABLE VI. DEC Water Resource Division Basic Well Data List.

Well No.	Well Owner	Yield (gal/min)	Total Depth (feet)	Depth to Bedrock (feet)	Static Water Level (feet BGS)	Distance and Direction from subject property
20	Clyde Holt*	7	300	205	40	100± feet northeast
393	John Mascitti	6	148	44	N/A	2,000± feet northeast
340	A.J. Leguerre	25	305	6	N/A	2,000± feet northeast
312	Winchester Collision*†	7.5	125	50	N/A	900± feet southeast
83	Messier House Moving*	7	265	15	50	800± feet south
80	Northlight Studios†	25	370	170	artesian	1,000± feet south
341	Huntington Homes	50	245	232	10	1,800± feet southwest
277	Tony Dutill	4	175	65	N/A	1,000± feet northwest

Notes: 1. BGS = below the ground surface. N/A = not available.
2. * = property ownership updated from state list. † = undrinkable water (sulphur).

Town of East Montpelier Fire Department. In a conversation on May 28, 1993, Volunteer Fire Chief Mike Garren indicated that the fire department had no record or other knowledge of a release of petroleum or hazardous substances to the environment on, or adjacent to, the subject property. Mr. Garren was aware of the underground storage tank closure assessment conducted at the subject property in November 1992.

Town of East Montpelier Clerk's Office. According to the records reviewed at the Clerk's Office, the land within the neighborhood of the subject property was owned predominantly by the Leperle family prior to 1971, and was either undeveloped or utilized as farmland.

Town of East Montpelier Planning Office. According to information available at the Planning Office, the majority of the subject property neighborhood was formerly part of the LaPerle farm property. Portions of this property were subdivided for commercial and residential use circa 1970, and these lots were developed from circa 1971 through circa 1986. The only recorded industrial or commercial sites located within the neighborhood prior to this subdivision were the "Dairy Kool" vehicle building and product warehouse, now in use as the Washington Electric Cooperative maintenance facility; and the Whitcomb Auto facility, now doing business as Winchester Collision.

Site Description

A SHEVENELL-GALLEN and Associates, Inc., representative visited the site and conducted a survey of the subject property on April 25 and 26, 1993. A walkover of the site was conducted to observe conditions both on the site and on adjacent properties. Mr. Jerry Dumas, the facility manager, was present during the April 25, 1993, portion of the site visit, and provided additional information. Photographic documentation is presented in *Appendix B*.

Subject Property

Building Inspection. The building consists of a vehicle bay and a walled-off office and storage room area. Overhead doors allow truck access to the vehicle bay at the north, south, and east sides of the building. A mezzanine above the office, accessed by a freight elevator and two stairways, is utilized as a storage area. Soft drink dispensing equipment and point-of-sale items associated with the distribution of Coca-Cola are stored in the office and mezzanine areas.

No staining indicating a release of petroleum was noted on the concrete floor in the vicinity of the two heating oil tanks, located at the northeast interior corner of the building, next to the enclosed furnace room. No insulation appearing to contain asbestos was observed on the furnace or associated air ducts in the warehouse.

Five connected floor drains were observed in a line from north to south in the vehicle bay area of the building. The floor drain line discharges into the western drainage swale via a conduit from the southern end of the building. The areas around the drains were dry, and no evidence of a discharge of petroleum into the floor drain was observed.

Exterior Inspection. The subject property is located on a rectangular rise of land, bordered to the north and east by roads, and to the south and west by drainage swales. The southern and eastern sides of the developed portion of the lot are enclosed by a chain-link fence. The connected shed at the southern wall of the building was empty at the time of the site visit.

A pad-mounted electrical transformer is located at the southeast corner of the warehouse building. According to Mr. Sy Lambertson of Washington Electric Cooperative, Inc., the transformer was installed in 1973 when the warehouse was erected, and does not contain polychlorinated biphenyls (PCBs).

Surface runoff drains are located directly in front of the northern and southern overhead doors of the warehouse. The areas around the drains were dry, and no evidence of a discharge of petroleum into the drains was observed.

A 50± square-foot area of debris dumping was observed in the western drainage swale. The items in this area of dumping included household refuse, brush, old tires and building debris. No items of potential environmental concern were observed among the debris.

Neither sheen nor odor indicating a release of petroleum was noted on the surface of the unnamed drainage stream located at the southern boundary of the subject property.

Subject Property Neighborhood

Abutting Properties. Diesel vehicles, a vehicle maintenance building and heavy construction equipment were observed on the Messier House Moving property, abutting the subject property to the south. This property is located on a steep bedrock rise, topographically upgradient and across the southern drainage swale from the subject property.

Several 55-gallon drums and an unknown volume of construction debris were observed on the currently vacant Montpelier Woodworks facility, located topographically crossgradient of and across a drainage swale from the subject property.

Several junked vehicles and an unknown volume of metallic and automotive debris were observed on the Holt residential property, located topographically crossgradient of and across Route 14 from the subject property.

No items or areas of potential environmental concern were noted on the other abutting undeveloped properties, as viewed from the subject property.

Neighboring Properties. The Winchester Collision facility, located 0.15± miles south-southeast and topographically crossgradient of the subject property, is a RCRA hazardous waste generator.

The Northlight Studio Press facility, located 0.20± miles south-southwest and topographically downgradient of the subject property, is a hazardous waste generator, the site of active underground fuel oil storage tanks, and had until at least 1984 disposed of solvents and petroleum in an on-site septic leachfield.

The Washington Electric Cooperative facility, located 0.20± miles west and topographically crossgradient of the subject property, is a hazardous waste generator, a PCB transformer storage facility, and the site of active and former underground gasoline and diesel storage tanks.

The Huntington Homes facility, located 0.25± miles west and topographically crossgradient of the subject property, is the site of an active underground diesel storage tank.

No items or areas of potential environmental concern were noted on the other neighboring undeveloped and residential properties, as viewed from the public access ways.

HYDROGEOLOGICAL INVESTIGATION

Introduction

A hydrogeological investigation was conducted to determine the vertical and horizontal extent of the detected release of gasoline and diesel fuel in the vicinities of the former underground gasoline and diesel fuel underground storage tank systems. The investigation included: the advancement of sixteen test borings, the collection and screening of 127 split-spoon samples from the borings for the presence of photoionizable compounds; the installation of four overburden monitoring wells and a survey of the wells and borings to a common datum; the collection and analyses of two rounds of groundwater samples from the monitoring wells for the presence of purgeable aromatic hydrocarbons, oil and grease, and total petroleum hydrocarbons; and the performance of rising

head slug tests in two selected monitoring wells to calculate hydraulic conductivities and seepage velocities. A copy of the site specific health and safety plan is included as *Appendix C*.

Methodology

Test Borings

The test borings were placed in a perimeter 10± feet from the boundaries of the former underground storage tank excavations, to delineate the extent of any petroleum contamination that may have migrated laterally through the sandy laminae observed in the clay-rich soils during the above-referenced underground storage tank closure assessment. Test borings which were not selected for the installation of monitoring wells were concluded at the contact between a clay-silt layer and an underlying sandy silt layer, due to the lack of observable evidence of vertical migration of petroleum downward through the clay-rich layer.

Sixteen borings were advanced on the subject property on April 26 through 29, 1993, by Great Works Test Boring, Inc., under the supervision of a representative of SHEVENELL-GALLEN and Associates, Inc. (Figure 4). Test borings were advanced using a 7.75-inch outside diameter hollow-stem auger, and soil samples were collected at five-foot intervals ahead of the auger with a 24-inch long split-spoon sampler. Monitoring wells were installed in four (B-1, B-5, B-11 and B-16) of the 16 borings.

Soil boring logs are included in *Appendix D*; the boring location rationale and details are summarized in Table VII.

TABLE VII. Summary of Test Boring Logs and Well Placement.

Soil Boring	Location	Reason for Advancing	Dominant Soils	P	Bottom of Boring (ft.)
B-1 (SG-1)	30± feet NE of gasoline UST	Presumed upgradient position from gasoline UST excavation	silty clay, sandy silt	N	60±
B-2	10± feet E of gasoline UST	E boundary of former gasoline UST excavation	silty clay, sandy silt	N	32±
B-3	10± feet SE of gasoline UST	SE boundary of former gasoline UST excavation	silty clay, sandy silt	N	32±
B-4	10± feet S of gasoline UST	S boundary of former gasoline UST excavation	silty clay, sandy silt	N	32±
B-5 (SG-2)	20± feet SW of gasoline UST	Presumed downgradient position from gasoline UST excavation	silty clay, sandy silt	N	61±
B-6	10± feet W of gasoline UST	W boundary of former gasoline UST excavation	silty clay, sandy silt	Y	27±
B-7	20± feet W of gasoline UST	Establish extent of gasoline contamination detected in B-6	silty clay, sandy silt	Y	17±

TABLE VII. Summary of Test Boring Logs and Well Placement. (continued...)

Soil Boring	Location	Reason for Advancing	Dominant Soils	P	Bottom of Boring (ft.)
B-8	30± feet W of gasoline UST	Establish extent of gasoline contamination detected in B-6, B-7	silty clay, sandy silt	N	27±
B-9	10± feet NW of gasoline UST	NW boundary of former gasoline UST excavation	silty clay, sandy silt	N	32±
B-10	10± feet N of gasoline UST	N boundary of former gasoline UST excavation	silty clay, sandy silt	N	32±
B-11 (SG-3)	10± feet NE of diesel excavation	Presumed upgradient position from diesel UST and pump excavations	silty clay, sandy silt	N	60±
B-12	10± feet E of diesel UST	E boundary of former diesel UST excavation	silty clay, sandy silt	N	37±
B-13	10± feet E of diesel pump	E boundary of former diesel pump excavation	silty clay, sandy silt	N	37±
B-14	10± feet SE of diesel pump	SE boundary of former diesel pump excavation	silty clay, sandy silt	N	42±
B-15	10± feet N of diesel UST	N boundary of former diesel UST excavation	silty clay, sandy silt	N	37±
B-16 (SG-4)	80± feet SW of diesel excavations	Presumed downgradient position from diesel UST and pump excavations	silty clay, sandy silt	N	38±

Notes: 1. P = petroleum odor, Yes (Y) or No (N).
 2. Upgradient locations were inferred from topography.

Monitoring Well Installation

Each monitoring well consisted of 2.0-inch diameter, schedule 40 PVC solid riser above ten feet of 0.01-inch machine-slotted PVC screen. The bottom of the screen was plugged to prevent sediment from rising into the well casing. The riser, screen and plug were connected by threaded joints; no cements or glues were used. The boring annulus was filled with filter sand to one foot above the screen, and then sealed with one foot of bentonite; a second bentonite seal was placed at the contact of the clay-silt and sandy silt strata to prevent potential downward cross-contamination. Filter sand was used to fill the remaining annulus, and either a protective steel roadbox or standpipe was cemented into place to complete the well construction. Each monitoring well was developed, using a high-density polyethylene bailer, subsequent to completion by surging the ground water in each well prior to removing at least one well volume; this process was repeated a minimum of five times, until turbidity was minimized and appeared constant by visual inspection. Well construction details for the four monitoring wells are included in *Appendix D*. The following table summarizes the monitoring well specifications.

TABLE VIII. Monitoring Well Specifications.

Monitoring Well	Monitoring Well Screen Interval (ft.)	Depth to Observed Saturated Soil	Bottom of Boring (ft.)	Bottom of MW (ft.)
SG-1	50.0 - 60.0	54±	60.0±	60.0±
SG-2	51.0 - 61.0	55±	61.0±	61.0±
SG-3	50.0 - 60.0	54±	60.0±	60.0±
SG-4	28.0 - 38.0	32±	38.0±	38.0±

Note : All measurements given in feet below the ground surface.

Surveying and Field Measurements

Surveying. The ground surface at each boring was surveyed on April 29, 1993, relative to ground surface at boring B-16 (assumed to be 720.00 feet above mean sea level, as extrapolated from the *Plainfield, Vermont* 7.5-minute quadrangle, USGS topographic map) using a Lietz/Sokkisha C40 Automatic Level.

The top of the PVC riser in each monitoring well was surveyed on April 29, 1993, relative to the ground surface adjacent to monitoring well SG-4 (assumed to be 720.00 feet above mean sea level, as extrapolated from the *Plainfield, Vermont* 7.5-minute quadrangle, USGS topographic map) using a Lietz/Sokkisha C40 Automatic Level. Key site information, including the dimensions of the building, the locations of the former underground storage tanks, and the ground elevations adjacent to the monitoring wells, were also surveyed.

Field Measurements. Field measurements (including static water level, groundwater temperature, specific conductance, and pH) were taken on April 30 and May 17, 1993, using a YSI Model 3000 TLC (temperature-level-conductivity) instrument, and MEL pHydron Instacheck test paper, after allowing the wells to equilibrate for at least 4 days (April 30, 1993) and up to 21 days (May 17, 1993). Water quality measurements were conducted after water samples for laboratory analyses were collected.

Hydraulic Conductivity Tests

Rising-head slug tests, also known as bail tests, were conducted on May 18, 1993, to determine the hydraulic conductivity of soils in the immediate vicinity of the screened portion of monitoring wells SG-2 and SG-4. The static water level was measured using a YSI Model 3000 TLC instrument, and then the well was rapidly purged by bailing. After purging, water levels were measured for up to thirty minutes in each well, to allow ample time to evaluate the effect of the filter pack, and to determine the time over which the data are valid.

Sample Collection

Soil. One hundred and twenty-seven (127) split-spoon soil samples were collected on April 26 through 29, 1993, for field screening for the presence of photoionizable compounds by a representative of SHEVENELL-GALLEN and Associates, Inc. A soil sample was placed into a dedicated 8-ounce sample jar sealed with aluminum foil, and was labelled with the corresponding boring (B-1 through B-16) and split-spoon sample number (SS-1 through SS-12).

Ground Water. On April 30 and May 17, 1993, a representative of SHEVENELL-GALLEN and Associates, Inc., collected groundwater samples SG-1, SG-2, SG-3 and SG-4 from the four monitoring wells for purgeable aromatic hydrocarbon, oil and grease, and total petroleum hydrocarbon analyses.

During each sampling round, the initial bailer was inspected for the presence of free product, and then each well was purged, using a high density polyethylene bailer, by the removal of at least three well volumes of ground water prior to sample collection. Each groundwater sample was collected using a dedicated high-density polyethylene bailer and transferred to duplicate sterile, 40-milliliter VOA vials fitted with Teflon® septa, and three clean, one-liter amber glass jars fitted with Teflon® cap liners. Care was taken to minimize the agitation of water flowing into the vials and jars, and the vials were inspected to verify that no headspace was present after filling and sealing. The groundwater samples collected for purgeable aromatic hydrocarbon analysis were field preserved with 10 normal HCl, while the samples collected for oil and grease and total petroleum hydrocarbon analyses were field preserved with sulphuric acid to pH of 2 or less.

Sample Custody

Groundwater samples SG-1 through SG-4 were stored on ice in a cooler while awaiting and during transport from the field to Analytics Environmental Laboratory, Inc., of Portsmouth, New Hampshire, and ALPHA Analytical Laboratories of Westborough, Massachusetts. The two rounds of samples were logged into Analytics Environmental Laboratory, Inc., at 8:30 AM on May 3, 1993, and at 8:45 AM on May 19, 1993; and into ALPHA Analytical laboratories at 6:00 PM on May 3, 1993, and at 7:15 PM on May 20, 1993, respectively.

Analytical Methods

Photoionizable Compounds. A Photovac MicroTip® MP-1000 photoionization detector equipped with a 10.6 eV lamp source was used to field screen the soil samples for the presence of photoionizable compounds. The instrument was calibrated with 100 parts per million (ppm) concentration of isobutylene, and was then adjusted to display values which are equivalent to benzene. For this instrument, 100 ppm isobutylene is equivalent to 60 ppm benzene.

The screening was conducted according to the protocols established by the Vermont Department of Environmental Conservation and outlined in *Agency Guidelines for Petroleum Contaminated Soil and Carbon Media*.

Purgeable Aromatic Hydrocarbons. The groundwater samples were analyzed for the presence of purgeable aromatic hydrocarbons including xylenes and methyl t-butyl ether according to modified EPA Method 624, using a Hewlett Packard Model 5890/5971 Gas Chromatograph/Mass Spectrometer equipped with a capillary column.

Oil and Grease. The groundwater samples were also prepared by freon extraction and analyzed for the presence of oil and grease according to EPA Method 418.1, using an infra-red spectral analyzer.

Total Petroleum Hydrocarbons. The groundwater samples were prepared by separatory funnel liquid/liquid extraction, according to EPA Method 3510, and then analyzed for the presence of total gasoline or total fuel oil according to EPA Method 8100, using a Hewlett Packard Model 5890 Gas Chromatograph equipped with a capillary column and a flame ionization detector.

Results

Hydrogeology

Site Geology. Four distinct soil horizons were noted in the split-spoon samples: (1) a silty clay with fine sandy laminae in the upper 10 to 15± feet below the ground surface; (2) 2 to 7± feet of fine to medium sand; (3) a clay-silt with fine sandy laminae; and (4) a fine sandy silt, encountered at 14 to 37± feet below the ground surface.

Saturated soil was encountered within the sandy silt layer at 32 to 55± feet below the ground surface. The depth to bedrock was not determined; however, based on drinking water well logs for neighboring properties, the depth to refusal is estimated to be 200± feet. An interpretive cross section of the property is included as Figure 5.

Groundwater Flow Direction. The inferred direction of groundwater flow, based upon the static water elevations as measured on May 17, 1993, is to the north-northwest (Figure 4). The average water table gradient across the subject property is 0.045± ft/ft. The surveyed elevation of the top of the PVC riser, ground surface, and the static water level for each monitoring well is provided in the table below.

TABLE IX. Static Water Level Data.

Monitoring Well	Elevation		Static Water Level	
	Well	Ground	Depth	Elevation (May 17, 1993)
SG-1	743.50	740.74	56.97	686.53
SG-2	742.26	742.51	55.64	686.62
SG-3	743.59	743.84	53.46	690.13
SG-4	723.01	720.00	32.01	691.00

- Notes: 1. All elevations are relative to a datum of 720.00 feet above mean sea level (MSL), assumed to be the ground surface at monitoring well SG-4.
 2. Static water level measurements are in feet below the top of the PVC riser.
 3. Well elevations are measured from the top of the PVC riser.

The survey data, which form the basis for the inferred groundwater flow direction as shown in Figure 4, are presented in *Appendix E*.

Hydraulic Conductivities. The calculated hydraulic conductivities ranged from 0.470 to 1.36 ft/day, and are presented in the table below. The representative soil types for the screened interval are also noted. The hydraulic conductivity values obtained for the wells tested correspond to published ranges (Freeze and Cherry, 1979) for the soil type noted.

TABLE X. Hydraulic Conductivities.

Monitoring Well	K		Soil Type
	(ft/day)	(cm/sec)	
SG-2	1.36	4.80×10^{-4}	Fine sandy silt
SG-4	0.470	1.66×10^{-4}	Fine sandy silt

The Bouwer and Rice (1976) method of drawdown analysis was used to calculate the hydraulic conductivities. This method assumes that the well water volume (slug) is removed instantaneously; however, in practice ground water is removed over a short period of time relative to the length of the test. The data were analyzed using Geraghty & Miller's AQTESOLV Aquifer Test Solver/Version 1.00 software on a DELL 433/L microcomputer. An explanation of slug test theory and parameters for the test are given in *Appendix F*.

Soil Quality

The highest concentration of photoionizable compounds detected in the soil samples was 524 ppm, as referenced to benzene. This reading was detected in the sample collected from boring B-6 (10± feet west of the former gasoline UST excavation), 5 to 7± feet below the ground surface. Elevated levels of photoionizable compounds were observed from 5 to 12± feet below the ground surface in borings B-6 and B-7, and were not present in adjacent borings B-5, B-8 or B-9, indicating a localized zone of photoionizable compounds in the soil. Field screening data for the presence of photoionizable compounds are presented in the test boring logs in *Appendix C*.

Ground Water Quality

Field Parameters. The temperature, specific conductance, and pH measurements, as measured on May 17, 1993, are within the normal ranges for ground water in New England. The specific conductance is an indirect measurement of the dissolved inorganic constituents in the ground water. The pH is a measurement of the hydrogen ion concentration, typically defined in terms of acidity (pH less than 7.0) or alkalinity (pH greater than 7.0). Field parameter measurements are provided in the table below.

TABLE XI. Field Parameters for Ground Water from the Monitoring Wells.

Monitoring Well	Temperature (°C)	pH	Specific Conductance (μS/cm)
SG-1	8.7	6.5	618
SG-2	9.3	6.5	415
SG-3	8.3	6.5	382
SG-4	7.7	6.5	354

Note: μS/cm = micro-siemens per centimeter.

Purgeable Aromatic Hydrocarbons. A trace (less than 5 micrograms per liter, μg/L) of toluene, a purgeable aromatic hydrocarbon indicative of petroleum, was detected in the groundwater samples collected on April 30, 1993, from monitoring wells SG-3 and SG-4. The detected concentration of toluene in the samples is below the detection limit of the method used, and below the Maximum Contaminant Level (MCL) established by the US EPA for public drinking water supplies.

No purgeable aromatic hydrocarbons were detected in the second round of groundwater samples collected from the monitoring wells on the subject property on May 17, 1993.

Oil and Grease. No oil and grease was detected in the groundwater samples collected from the four monitoring wells on April 30 and May 17, 1993.

Total Petroleum Hydrocarbons. Total petroleum hydrocarbons were detected in the groundwater samples collected on April 30, 1993, from monitoring wells SG-3 and SG-4 at concentrations of 132 $\mu\text{g/L}$ and 107 $\mu\text{g/L}$, respectively.

No petroleum hydrocarbons were detected in the confirmation round of groundwater samples collected on May 17, 1993, from the monitoring wells on the subject property.

Analytical results from the laboratory with a complete listing of the compounds which were tested for, specific detection limits, and a copy of the chain-of-custody documentation are included in *Appendix G*.

DISCUSSION

Hydrogeology

Site Geology

Soils on the subject property are interpreted to be glacio-lacustrine deposits, dominated by dense clay and silt strata with intermittent sand laminae. The silty clay and clay silt soils observed in the test borings were typically moist to wet, suggesting that infiltrating surface water is being retarded by these soils. Although the sand layer observed 10 to 15 \pm feet below the ground surface was typically wet to saturated, indicating the highly confining nature of the surrounding clay-rich soils, there was no evidence to suggest that this sand layer acted as a perched water table.

Based on drinking-water well-driller's logs for the area, depth to bedrock in the neighborhood of the subject property varies from 6 to 370 \pm feet below the ground surface. Although bedrock was not encountered during the advancement of the test borings, the driller's log for the abutting Holt property, located topographically and hydraulically crossgradient of the subject property, indicates a bedrock depth of 205 \pm feet. Based on this well log, a value of 200 \pm feet was assumed in the hydraulic conductivity calculations for monitoring wells SG-2 and SG-4. These logs also indicate shallow bedrock depths (15 to 50 \pm feet below the ground surface) for the abutting Messier House Moving and Winchester Collision properties, respectively, located topographically and hydraulically upgradient of the subject property to the south and southeast. These bedrock depths coincide with the extreme variations in topography observed in the area of the subject property.

Overburden Hydrology

Saturated Thickness. The saturated thickness of the overburden aquifer is assumed to be the distance between the bedrock surface and the static water level as measured in the monitoring wells. The thickness of saturated soils on the subject property is likely greater than 150 \pm feet, based on a reported bedrock depth of 205 \pm feet below the ground surface on the abutting Holt property.

Unsaturated Zone. The unsaturated zone is the zone of soils above the water table in an unconfined aquifer. The depth to the water table ranges from 29 \pm feet below the ground surface at monitoring well SG-4 to 55 \pm feet below the ground surface at monitoring well SG-2 (on sampling date May 17, 1993). The average thickness of the unsaturated zone within the study area is 48 \pm feet.

Groundwater Flow Direction. The inferred groundwater flow direction on the subject property is to the north-northwest, towards the Winooski River (Figure 4). The measured static water levels generally coincide with the first observed saturated soils in the test borings, suggesting that ground water on the subject property is flowing under unconfined aquifer conditions.

The inferred groundwater flow direction does not coincide with the generally southwest surface drainage in the immediate area of the subject property, as anticipated, but does coincide with the regionally westward topographic slope relative to the subject property (Figure 1). Based on the observations made in this investigation, groundwater flow in the neighborhood of the subject property is likely to be complex due to extreme variations in bedrock depth and topography, rapid changes in overburden lithology, and the influence of the Winooski River valley.

Seepage Velocity. Seepage velocity, also referred to as average linear velocity, is the average speed at which a parcel of ground water flows through a cross section of soil. The seepage velocity of a contaminant can also be calculated, if the effects of retardation of the contaminant relative to the ground water are known. Retardation is dependent upon not only the type of contaminant, but also the nature of the soils. The seepage velocity of ground water can be estimated using Darcy's Law:

$$v_s = \frac{Ki}{n_e}$$

where

- v_s = seepage velocity (ft/day)
- K = hydraulic conductivity (ft/day)
- i = hydraulic gradient (ft/ft); and
- n_e = effective porosity (unit-less; assumed to be 0.40 for observed sandy silt).

Using the data presented in *Appendix E* and Darcy's Law, the estimated overburden groundwater seepage velocity is $0.153 \pm$ feet/day and $0.053 \pm$ feet/day as calculated from slug test data from monitoring wells SG-2 and SG-4, respectively. Therefore, an average velocity of 0.129 feet/day is believed to be representative of the overburden.

Nature and Extent of Detected Releases

Sources

The localized lateral migration of gasoline in the soil observed on the western boundary of the former underground gasoline storage tank excavation was most likely limited to the permeable sand layer, and was likely confined by the surrounding clay-rich soils. There is no evidence of any extensive lateral migration of petroleum in the overburden soils in the area of either tank excavation.

The presence of traces of toluene and petroleum hydrocarbons in the first round of groundwater samples, collected immediately after the installation of the wells, was most likely an artifact of the test boring program; soils may have been carried downward by the auger from the level of the former tank excavations to the water table, or have fallen into the annulus prior to well construction. The absence of oil and grease in both rounds of groundwater samples collected, and the absence of purgeable aromatic hydrocarbons and petroleum hydrocarbons in the second round of groundwater samples collected is most likely due to the highly confining nature of the clay/silt soils in which the former underground gasoline and diesel storage tank systems were located.

The locations of the monitoring wells installed at the site were selected based on topographic inferences, which indicated that groundwater flow was likely to the southwest. Based on the inferred groundwater flow direction as determined by this investigation, these wells are actually located nearly crossgradient of the known source areas. However, because of the proximity of the wells to the former tank excavations, the distance to the water table, and the lateral dispersion of any downward-migrating petroleum, the groundwater sampling points are located such that a release would likely be detected in samples collected from the wells. The documented petroleum contamination at the site presumably is confined to the unsaturated soils in the immediate area of the tank system excavations; this is supported by the predominantly low concentrations of photoionizable compounds detected in the soil samples collected from the test borings, and the absence of oil and grease in both sampling rounds, and purgeable aromatic hydrocarbons and petroleum hydrocarbons in the confirmation round of groundwater samples collected from the monitoring wells.

Pathways

Drinking water in the neighborhood of the subject property is supplied from both overburden and bedrock wells. However, releases of petroleum or hazardous substances at or near the ground surface on the subject property would likely be confined near the surface, due to the predominantly clay-rich soils and the vertical distance to the water table.

Potential Receptors

One private drinking water well is located 1,000± feet hydraulically downgradient of the subject property, on the Tony Dutill property. Based on the observations and analytical results of this site investigation, the potential threat to groundwater quality at this receptor is low.

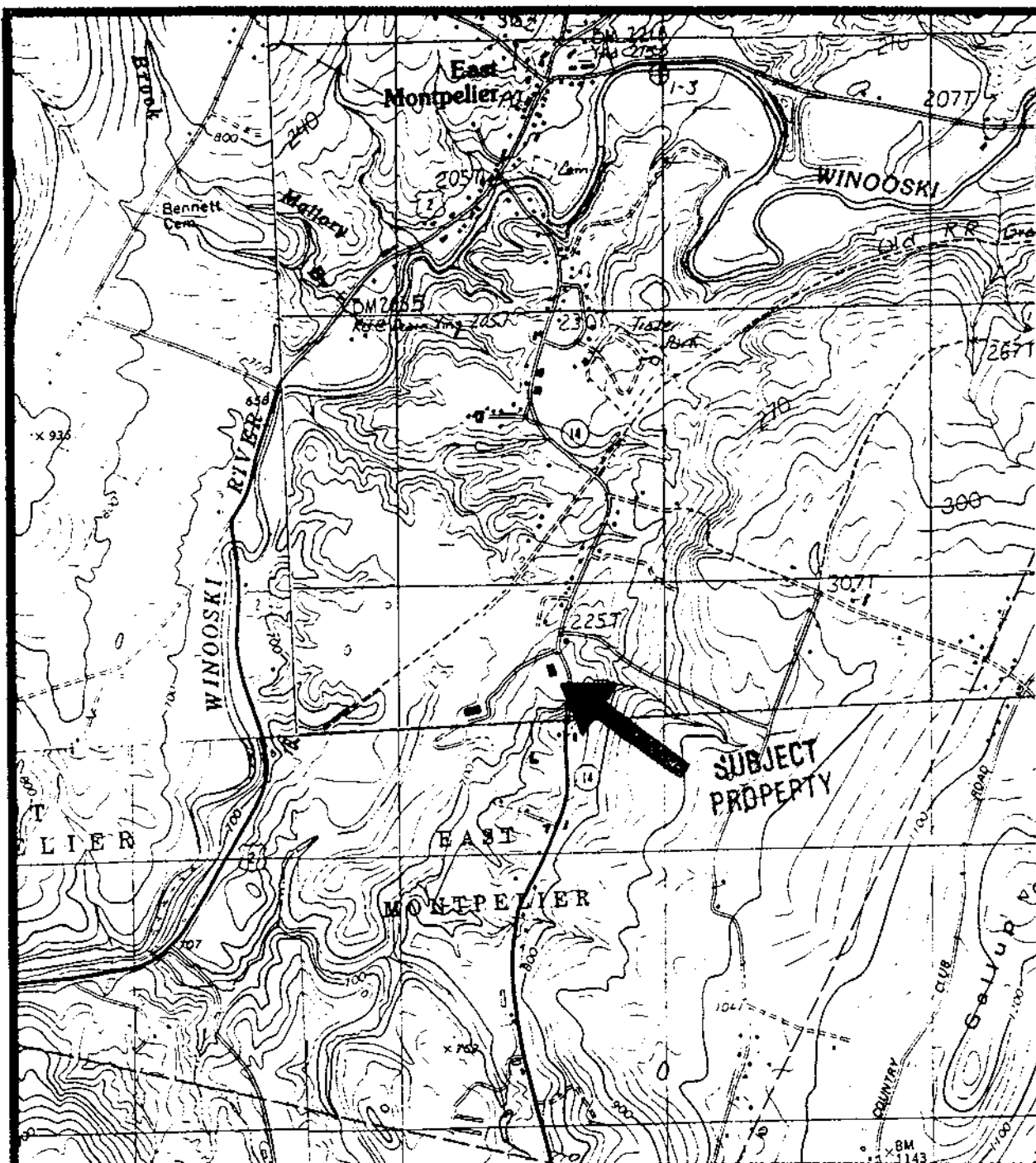
LIMITATIONS

The conclusions embodied in this report are based upon the work scope as described in the *Work Scope* section of the *Introduction*, and the information available to SHEVENELL~GALLEN and Associates, Inc., at the time of this submittal. SHEVENELL~GALLEN and Associates, Inc., therefore, reserves the right to amend its conclusions if information obtained subsequent to this report so requires. In addition, the client recognizes that SHEVENELL~GALLEN and Associates, Inc., services are solely for the benefit of the client, its heirs, successors and assigns, and that any person or party designated by the client to receive information regarding work for the client, shall be subject to the *Terms and Conditions* contained or referenced herein.

REFERENCES CITED

- Bouwer, H. and R. Rice, 1976. A slug test for determining hydraulic conductivity of unconfined aquifers with completely or partially penetrating wells, *Water Resources Research*, 12:423-428.
- Freeze, R. A. and J. A. Cherry, 1979. *Groundwater*, Prentice-Hall, Inc., Englewood Cliffs, New Jersey, p. 29.

FIGURES



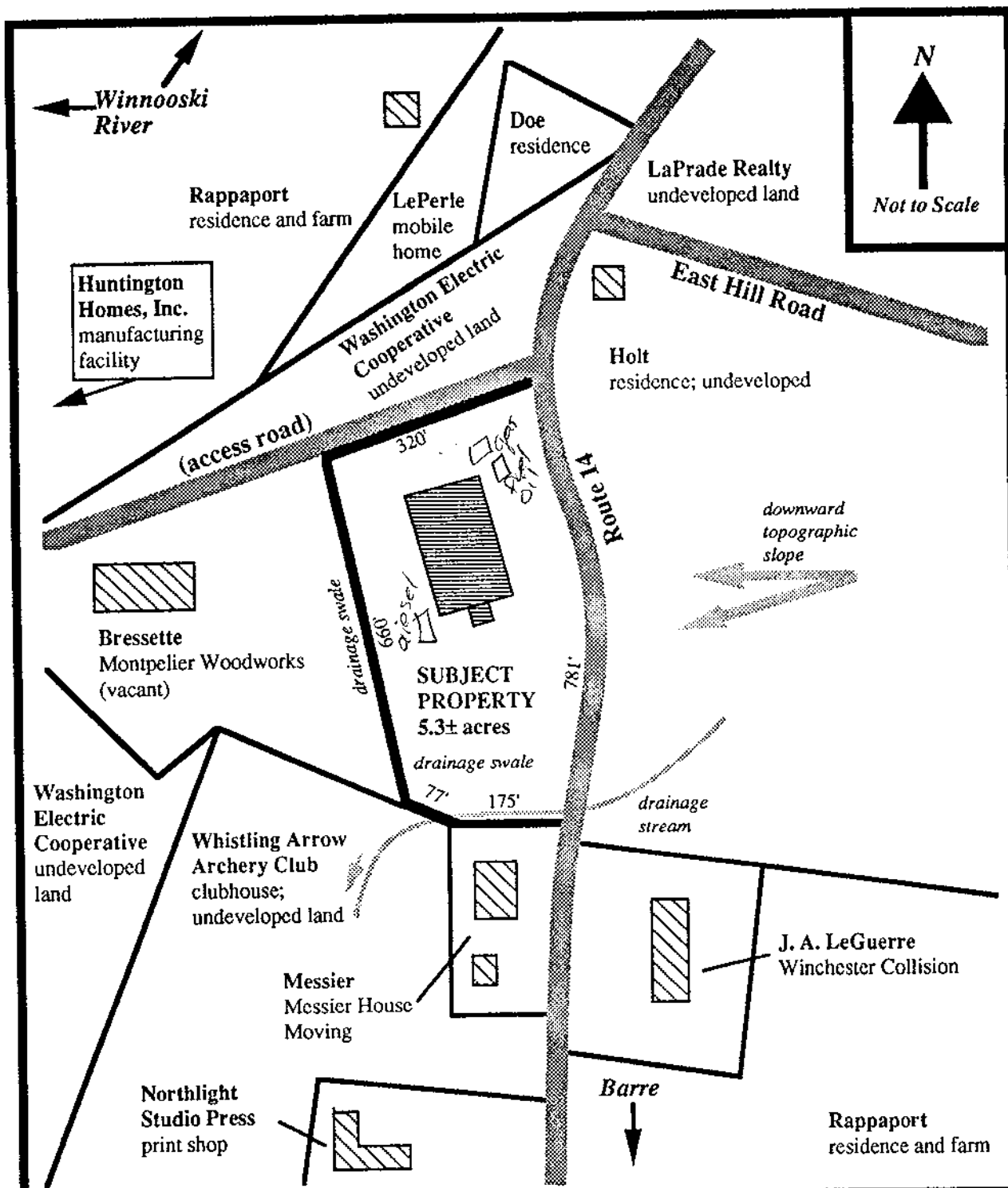
SOURCES: Barre East, Barre West, Montpelier, and Plainfield, VT,
7.5x15' Quadrangles

SCALE: 1 inch = 2,000 feet

FIGURE 1. Index Map Showing the Location of the Subject Property.

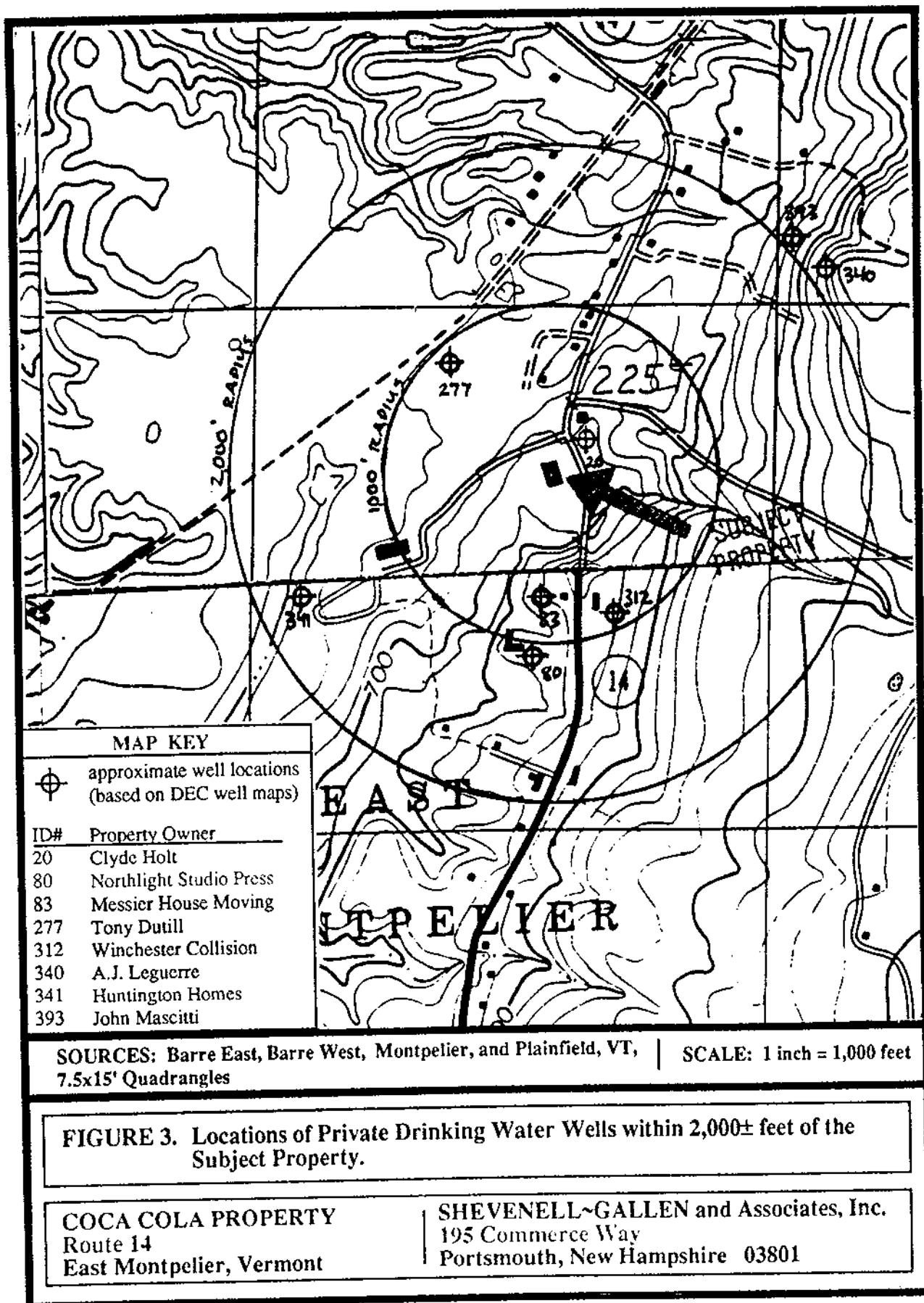
COCA COLA PROPERTY
Route 14
East Montpelier, Vermont

SHEVENELL-GALLEN and Associates, Inc.
195 Commerce Way
Portsmouth, New Hampshire 03801



COCA COLA PROPERTY
Route 14
East Montpelier, Vermont

SHEVENELL-GALLEN and Associates, Inc.
195 Commerce Way
Portsmouth, New Hampshire 03801



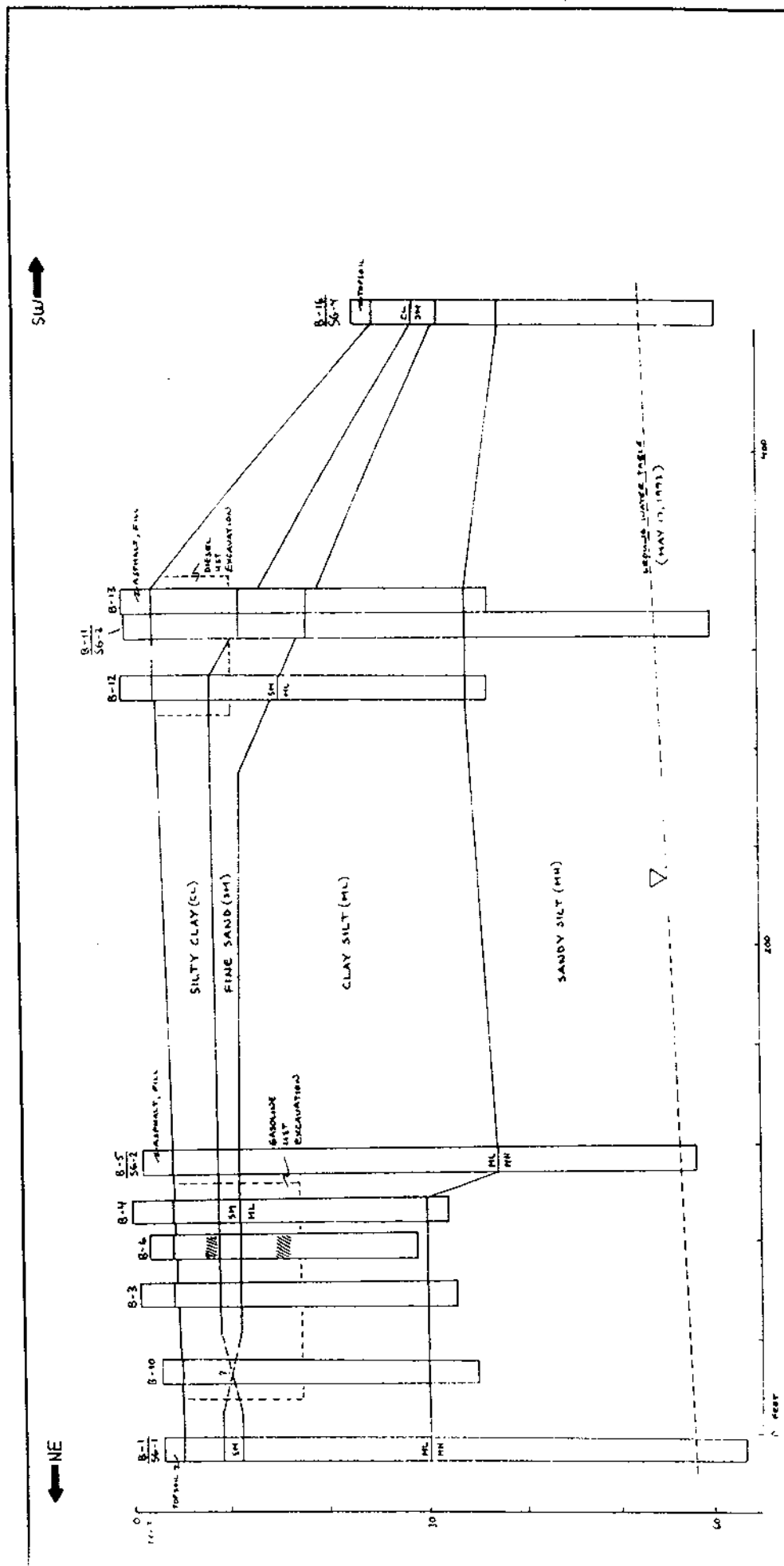


FIGURE 5. CROSS-SECTION OF SITE, A/E TO SW.			
SCALE	AS NOTED	APPROXIMATE	DRAWN BY
DATE	5/20/93		WJW
COCA-COLA BOTTLING COMPANY OF NORTHERN NEW ENGLAND, INC.			
PROPERTY			
ROUTE 14, EAST MONTPELIER, VT			
SHEET NUMBER			
C-8271-02:03/5			

WJW	HIGH P.D. READINGS IN SOIL
ML	OBSERVED SOIL TRANSITION
SM	(USCS CLASSIFICATION SYSTEM)
B-1	TEST BORING AND MONITORING
SC-1	WELL DESIGNATIONS

APPENDIX A
**State of Vermont Records
and Correspondence**

Notification and Permit

<p>I. OWNERSHIP OF TANKS</p> <p>Name <u>COCA-COLA BOTTLING PLANTS, INC.</u> <small>(CORPORATION, INDIVIDUAL, PUBLIC AGENCY, OR OTHER ENTITY)</small></p> <p>Mailing Address <u>ROUTE 14, EAST MONTPELIER ROAD</u></p> <p>City <u>EAST MONTPELIER</u> State <u>VT</u> Zip <u>05651</u></p> <p>Phone () _____</p> <p>II. OPERATOR OF TANKS (if different than owner)</p> <p>Name _____ <small>(CORPORATION, INDIVIDUAL, PUBLIC AGENCY, OR OTHER ENTITY)</small></p> <p>Mailing Address _____</p> <p>City _____ State _____ Zip _____</p> <p>Phone () _____</p> <p>III. CONTACT PERSON <small>(person responsible for the day to day operation of tanks)</small></p> <p><input checked="" type="checkbox"/> Check if same as owner</p> <p><input type="checkbox"/> Check if same as operator</p> <p>If different than owner or operator:</p> <p>Name _____</p> <p>Mailing Address _____</p> <p>City _____ State _____ Zip _____</p> <p>Phone () _____</p> <p>IV. LOCATION OF THE TANKS</p> <p>Name <u>COCA-COLA BOTTLING PLANT</u> <small>(TRADE NAME, COMPANY NAME OR DBA)</small></p> <p>Street Address <u>ROUTE 14, EAST MONTPELIER ROAD</u> <small>(ROAD NAME, HIGHWAY #)</small></p> <p>City/Town <u>EAST MONTPELIER</u>, VT Zip <u>05651</u></p> <p>County <u>WASHINGTON</u></p> <p>Phone (802) <u>476-6653</u></p>	<p>V. SITE LEAK HISTORY (if applicable)</p> <p>a) Year of Tank or Piping Leak <u>1992</u> Substance Leaked <u>GASOLINE/DIESEL</u></p> <p>b) For Overfill or Spill in excess of 25 gallons: Year of Overfill/Spill _____ Substance Overfilled/Spilled _____</p> <table style="width: 100%;"> <tr> <td>TANK REMOVAL</td> <td>Year</td> <td><u>1992</u></td> <td>HOW MANY</td> <td><u>3</u></td> </tr> <tr> <td>Replacement</td> <td>NO</td> <td></td> <td>Site Assessment</td> <td><u>YES</u></td> </tr> </table> <p>VI. TYPE OF FACILITY (check one)</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> Institutional</td> <td><input type="checkbox"/> State</td> </tr> <tr> <td><input type="checkbox"/> Bulk Plant</td> <td><input type="checkbox"/> Town</td> </tr> <tr> <td><input type="checkbox"/> Retail</td> <td><input type="checkbox"/> Federal</td> </tr> <tr> <td><input checked="" type="checkbox"/> Commercial</td> <td><input type="checkbox"/> Farm</td> </tr> <tr> <td><input type="checkbox"/> Service Station</td> <td><input type="checkbox"/> Residential</td> </tr> </table> <p>VII. PERMITTEE <small>(person filling for Category One Tank Permit)</small></p> <p><input checked="" type="checkbox"/> Check if same as owner</p> <p><input type="checkbox"/> Check if same as operator</p> <p>VIII. NUMBER OF TANKS AT THIS LOCATION</p> <p><u>3</u> Number owned by person named in I. above</p> <p><u>0</u> Number owned by another party</p> <p>Owned by: _____</p> <p>IX. LANDOWNER</p> <p>Name <u>COCA-COLA BOTTLING PLANT, INC.</u></p>	TANK REMOVAL	Year	<u>1992</u>	HOW MANY	<u>3</u>	Replacement	NO		Site Assessment	<u>YES</u>	<input type="checkbox"/> Institutional	<input type="checkbox"/> State	<input type="checkbox"/> Bulk Plant	<input type="checkbox"/> Town	<input type="checkbox"/> Retail	<input type="checkbox"/> Federal	<input checked="" type="checkbox"/> Commercial	<input type="checkbox"/> Farm	<input type="checkbox"/> Service Station	<input type="checkbox"/> Residential
TANK REMOVAL	Year	<u>1992</u>	HOW MANY	<u>3</u>																	
Replacement	NO		Site Assessment	<u>YES</u>																	
<input type="checkbox"/> Institutional	<input type="checkbox"/> State																				
<input type="checkbox"/> Bulk Plant	<input type="checkbox"/> Town																				
<input type="checkbox"/> Retail	<input type="checkbox"/> Federal																				
<input checked="" type="checkbox"/> Commercial	<input type="checkbox"/> Farm																				
<input type="checkbox"/> Service Station	<input type="checkbox"/> Residential																				

Date _____

LUST Site Number 921330
Date Permit Expires 4766653
Facility ID Number 171
Assessment Number _____

Amends VT form of record in Book No. 36, Page 130
 filed by:
 Agency of Natural Resources
 Department of Environmental Conservation
 UST Program, West Building.
 100 South Main Street
 Montpelier, VT 05602

VERMONT NOTIFICATION FOR UNDERGROUND STORAGE TANKS

- READ INSTRUCTION PAGE CAREFULLY BEFORE COMPLETING THIS FORM -

PLEASE TYPE OR PRINT IN INK ALL ITEMS EXCEPT "SIGNATURE" IN SECTION VI ON PAGE 2.
SEPARATE NOTIFICATION MUST BE FILED FOR TANKS OWNED AT A DIFFERENT LOCATION.
FOR ADDITIONAL INFORMATION, CALL THE VERMONT UNDERGROUND STORAGE TANK PROGRAM AT (802) 828-3395.

I. OWNERSHIP OF TANKS

NAME (CORPORATION, INDIVIDUAL, PUBLIC AGENCY OR OTHER ENTITY)

COCA-COLA BOTTLING PLANTS INC

STREET ADDRESS

RT # 14 EAST MONTPELIER ROAD

TOWN OR CITY

EAST MONTPELIER

COUNTY

WASHINGTON

STATE

VERMONT

ZIP CODE

05651

AREA CODE

(802)

PHONE NUMBER

476-6653

II. CONTACT PERSON (PERSON RESPONSIBLE FOR DAY-TO-DAY OPERATION OF TANKS)

NAME (IF SAME AS IN SECTION I, CHECK BOX HERE ☐)

NORMAN H. WATSON

JOB TITLE

BRANCH MANAGER

AREA CODE

(802)

PHONE NUMBER

476-6653

MAILING ADDRESS (IF DIFFERENT FROM SECTION I)

STREET ADDRESS

P. O. BOX 393

TOWN OR CITY

BARRE

COUNTY

WASHINGTON

STATE

VERMONT

ZIP CODE

05641

III. SITE LEAK HISTORY (COMPLETE THIS SECTION ONLY IF APPLICABLE)

YEAR OF LEAK

ESTIMATE OF QUANTITY

LEAKED IN GALLONS

SUBSTANCE LEAKED

SOURCE OF LEAK (CHECK ALL THAT APPLY)

☐ TANK☐ PUMP☐ OVERFILL☐ PIPING☐ TRANSFER☐ OTHER

CONTAMINATION (CHECK ALL THAT APPLY)

SOIL

YES

NO

DON'T KNOW

GROUNDWATER

☐☐☐

SURFACE WATER

☐☐☐

CORRECTIVE ACTION (CHECK ALL THAT APPLY)

☐ PRODUCT RECOVERY WELLS INSTALLED☐ SURFACE WATER CONTAINMENT USED☐ CONTAMINATED SOIL EXCAVATED☐ TANK REPLACED☐ PIPING REPLACED☐ NO ACTION TAKEN☐ OTHER (SPECIFY)

IV. LOCATION OF TANKS

FACILITY NAME OR OTHER SITE IDENTIFIER, AS APPLICABLE

COCA-COLA BOTTLING PLANT

STREET ADDRESS, STATE ROAD, R. R. #, AS APPLICABLE

RT # 14 EAST MONTPELIER ROAD

TOWN OR CITY

EAST MONTPELIER,

COUNTY

WASHINGTON

STATE

VERMONT

ZIP CODE

05651

NUMBER OF TANKS
AT THIS LOCATION

3

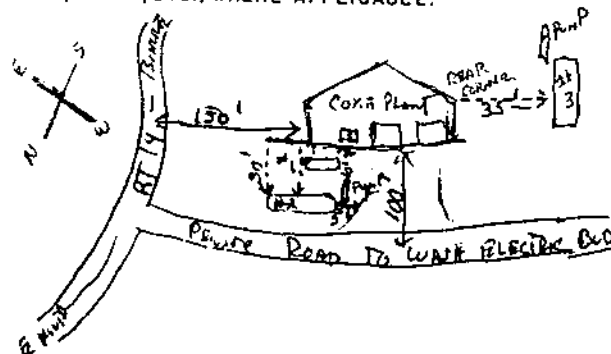
NAME OF LANDOWNER

SAME

TYPE OF FACILITY (CHECK ONE)

☐ INSTITUTIONAL☐ RETAIL/CONVENIENCE STORE☐ BULK PLANT☒ INDUSTRIAL/COMMERCIAL☐ STATE☐ RESIDENTIAL☐ TOWN☐ SERVICE STATION☐ FARM☐ FEDERAL (GIVE FACILITY ID NO. _____)☐ OTHER (SPECIFY)

USE THIS SPACE TO SKETCH AND/OR VERBALLY DESCRIBE FACILITY LOCATION. INCLUDE ESTIMATED DISTANCES TO CENTER LINE OF ROADS, BUILDINGS, STREAMS AND OTHER LANDMARKS. USE DIRECTIONAL DESCRIPTORS (NORTH, SOUTH, ETC.) WHERE APPLICABLE.



LOCAL USE ONLY

FACILITY I.D. NO. 476 6653 WAS

RECORDED ON 3 April 1986 IN

BOOK NO 316 PAGE 130

OF THE Town of Montpelier LAND RECORDS.

Hyman M. Isaac, Notary
NOTARY PUBLIC

STATE USE ONLY

☒ FIRST☐ AMENDED

FACILITY IDENTIFICATION NUMBER

4766653

DATE RECEIVED

8-26-86

APPROVED

5/12/1986

RECEIVED BY

Susan Alexander

V. TANK INFORMATION (COMPLETE FOR EACH TANK AT THIS LOCATION)

NUMBER TANKS SEQUENTIALLY (START WITH TANK CLOSEST TO BUILDING, IF POSSIBLE)	TANK NO. 1	TANK NO. 2	TANK NO. 3	TANK NO. 4	TANK NO. 5
1. STATUS OF TANK (CHECK ONE)					
CURRENTLY IN USE	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEMPORARILY OUT OF USE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PERMANENTLY OUT OF USE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. ESTIMATED AGE IN YEARS	13	13	4		
3. TOTAL CAPACITY (GALLONS)	4000	10000	12000		
4. MATERIAL OF CONSTRUCTION (CHECK ONE)					
STEEL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CONCRETE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FIBERGLASS REINFORCED PLASTIC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OTHER (SPECIFY)					
UNKNOWN	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. INTERNAL PROTECTION (CHECK ALL THAT APPLY)					
LINING (E.G. EPOXY RESINS)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OTHER (SPECIFY)					
NONE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
UNKNOWN	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. EXTERNAL PROTECTION (CHECK ALL THAT APPLY)					
CATHODIC PROTECTION	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PAINTED COATING (E.G. ASPHALTIC)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FIBERGLASS REINFORCED PLASTIC COATED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OTHER (SPECIFY)					
NONE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
UNKNOWN	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. SECONDARY CONTAINMENT (CHECK ONE)					
DOUBLE-WALL TANK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CONCRETE VAULT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IMPERVIOUS LINER	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OTHER (SPECIFY)					
NONE	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
UNKNOWN	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. LEAK DETECTION (CHECK ALL THAT APPLY)					
DAILY INVENTORY CONTROL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CONTINUOUS SENSOR	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ELECTRONIC IN-TANK SYSTEM	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
GROUNDWATER MONITORING WELL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
# PRECISION TEST (ENTER MO / YR IF WITHIN LAST 5 YRS)	<input type="checkbox"/> / /	<input type="checkbox"/> / /	<input type="checkbox"/> / /	<input type="checkbox"/> / /	<input type="checkbox"/> / /
IF A PRECISION TEST IS NOT AN AIR PRESSURE TEST, BY DEFINITION, A PRECISION TEST IS ACCURATE TO 0.5 GAL / HR					
OTHER (SPECIFY)					
NONE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. PIPING (CHECK ALL THAT APPLY)					
BARE STEEL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
GALVANIZED STEEL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BLACK IRON	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FIBERGLASS REINFORCED PLASTIC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CATHODICALLY PROTECTED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OTHER (SPECIFY)					
UNKNOWN	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. SUBSTANCE CURRENTLY OR LAST STORED IN GREATEST QUANTITY BY VOLUME (CHECK ALL THAT APPLY)					
GASOLINE (INCL. ALCOHOL BLENDS)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DIESEL	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NOS. 2 OR 4 FUEL OIL	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NOS. 5 OR 6 FUEL OIL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
AVIATION FUEL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
KEROSENE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
USED OIL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OTHER PETROLEUM SUBSTANCE (SPECIFY)					
HAZARDOUS SUBSTANCE (GIVE NAME OR CAS NO.)					
MIXTURE OF SUBSTANCES	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
UNKNOWN	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. ADDITIONAL INFORMATION FOR TANKS TAKEN PERMA- NENTLY OUT OF SERVICE	(A) ESTIMATED DATE LAST USED (MO / YR)	(A) ESTIMATED DATE LAST USED (MO / YR)	(A) ESTIMATED DATE LAST USED (MO / YR)	(A) ESTIMATED DATE LAST USED (MO / YR)	(A) ESTIMATED DATE LAST USED (MO / YR)
	/ /	/ /	/ /	/ /	/ /
	(B) ESTIMATED QUANTITY LEFT STORED (GAL)	(B) ESTIMATED QUANTITY LEFT STORED (GAL)	(B) ESTIMATED QUANTITY LEFT STORED (GAL)	(B) ESTIMATED QUANTITY LEFT STORED (GAL)	(B) ESTIMATED QUANTITY LEFT STORED (GAL)

VI. SIGNATURE I CERTIFY UNDER PENALTY OF LAW THAT THE INFORMATION PROVIDED ON THIS FORM AND ALL ATTACHED DOCUMENTS IS TRUE, ACCURATE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

NORMAN H. WATSON BRANCH MANAGER
PRINTED NAME AND OFFICIAL TITLE OF OWNER OR OWNER'S AUTHORIZED REPRESENTATIVE

SIGNATURE

DATE SIGNED

VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION
UNDERGROUND STORAGE TANK PROGRAM
103 SOUTH MAIN STREET
WATERBURY, VERMONT 05671-0404
(802) 244-8702

92
refer

Date of Removal: 11-5-92 Date of Assessment: 11-5-92
Person & Company Doing Assessment: Michael J. Gallen / CHEVROLET OIL CO. ACCOUNT, INC.
Telephone Number: 603-434-1490

Business Name Where Tank(s) Located: C.C. Cole & Sons Co., 68 Main St., Waterbury, VT
Number of Employees:
Street Address & Town/City: Town 14, Fair, Nantapelliz

Owner of Tank(s):
Address: Same Contact Person: David (Moose)
Town/City: Phone Number: 603-546-0

UST Facility ID Number: 4766653

Tank #	Product	Size	Condition
1	GASOLINE	12,000	Excellent
2	Diesel Fuel	12,000	Excellent
3	No. 2 Fuel Oil	4,000	Excellent
4			

Reason for Tank Removal (check one): ☐ abandoned ☒ routine replacement
☐ tank or piping leaking ☐ liability

Replacement Tank(s)? ☐ yes ☒ no Number of Replacement Tanks: _____

DEC UST Permit(s) Obtained? ☐ yes ☐ no

DEC-Permitted Tank(s) Still On-Site? ☐ yes ☒ no Number of Tanks: _____

Out of Service Tank(s) On-Site? ☐ yes ☒ no Number of Tanks: _____

Heating Oil Tank(s) On-Site? ☐ yes ☒ no No. of Tanks: _____ Size(s): _____

Any Waste Pumpage? ☒ yes ☐ no Estimated Volume: 55 Gallons

Transported By: J.T. Lewis Services

Size of Excavation (ft³): #1 1057 ft³ #2 1200 ft³ (from) 900 ft³ (to) 1000 ft³ #3 3000 ft³ #4 385 ft³
Depth: 41.5 ft #2 110 ft #3 85 ft

Concentrations Detected with PID: Peak = 1460 Average = 414

Type of PID: PICTOAC AUGMENTED MP-1000

Number of Readings (please put locations on attached drawing): #1 50 #2 100 #3 50

Calibration Info. (date, time, type of gas): 11-16-92 10:00 AM #3 50

Free Phase Product Encountered? ☐ yes ☒ no Approx. Amount: _____

Cont. Soils Stockpiled? ☒ yes ☐ no Amount (yd³): 644

Cont. Soils Backfilled? ☐ yes ☐ no Amount (yd³): _____

Groundwater Encountered? ☐ yes ☒ no Depth to Groundwater: _____

Monitoring Wells Installed? ☐ yes ☒ no Number: _____ Screen Depth: _____

On-Site Drinking Well? ☐ yes ☒ no [if yes: ☐ rock ☐ gravel ☐ spring]

Public Water Supply Well(s) Within 1/4 Mile? ☐ yes ☒ no

Distance to nearest: _____

Private Water Supply Well(s) Within 1/4 Mile? ☒ yes ☐ no How Many? up to 24

Samples Collected for Laboratory Analysis? ☒ yes ☐ no How Many? 5

[check all that apply: ☒ soil ☐ groundwater ☐ drinking water]

Receptors Affected (check all that apply):

☒ soil ☐ residential; # of houses/people: _____

☐ groundwater ☐ surface water; name/type of water body: _____

Signature of Owner or Authorized Representative: [Signature]

Date: 11-16-92

Signature of Person Performing Site Assessment: [Signature]

Date: 11-17-92

MN

TRIP REPORT

Coca-Cola Bottling Co. of Barre
Route 14
East Montpelier, Vermont
Box 393
Barre, Vermont 05641
(802) 476-6653

Participants:	Alec Hart, Area Manager Mike Nelson, VT ANR
Date of Inspection:	April 1, 1988
Purpose of Inspection:	Status determination
Generator Status:	Non-generator
EPA ID#:	None
Waste Water Treatment System:	Leachfield

General Description:

Coca-Cola Bottling Co. of Barre is a warehouse and distribution center. The company has not done any bottling since it moved from Route #302 fourteen years ago. The company employs thirty-five people.

Hazardous Waste Streams:

None

Observations:

No production work has ever been done at this site. No service work is done here either. It is all contracted out. Most of it is done by Lyon's

Actions Taken:

None

MN/mlc#398



State of Vermont

Department of Fish and Wildlife
Department of Forests, Parks and Recreation
Department of Environmental Conservation
State Geologist
Natural Resources Conservation Council

AGENCY OF NATURAL RESOURCES
103 South Main Street, 10 South
Waterbury, Vermont 05676
802-244-7331

DEPARTMENT OF FISH AND WILDLIFE
Nongame and Natural Heritage Program (NNHP)

18 May 1993

Mark J. Fisher
Shevenell-Gallen
44 Exchange St.
Portland, ME 04101

Re: Coca Cola Property, Route 14, East Montpelier, VT

Dear Mr. Fisher:

Thank you for contacting the NNHP. A search of our database reveals no known occurrences of significant natural communities or rare, threatened, or endangered animals or plants at this site. However, as a note of caution, no biological evaluation of this area has been made by the NNHP.

Please contact us if you have any questions.

Sincerely,

EG Marshall

Everett Marshall
Biologist/Data Manager

APPENDIX B
Photographic Documentation



Photo 1. View of building on subject property, facing southwest.

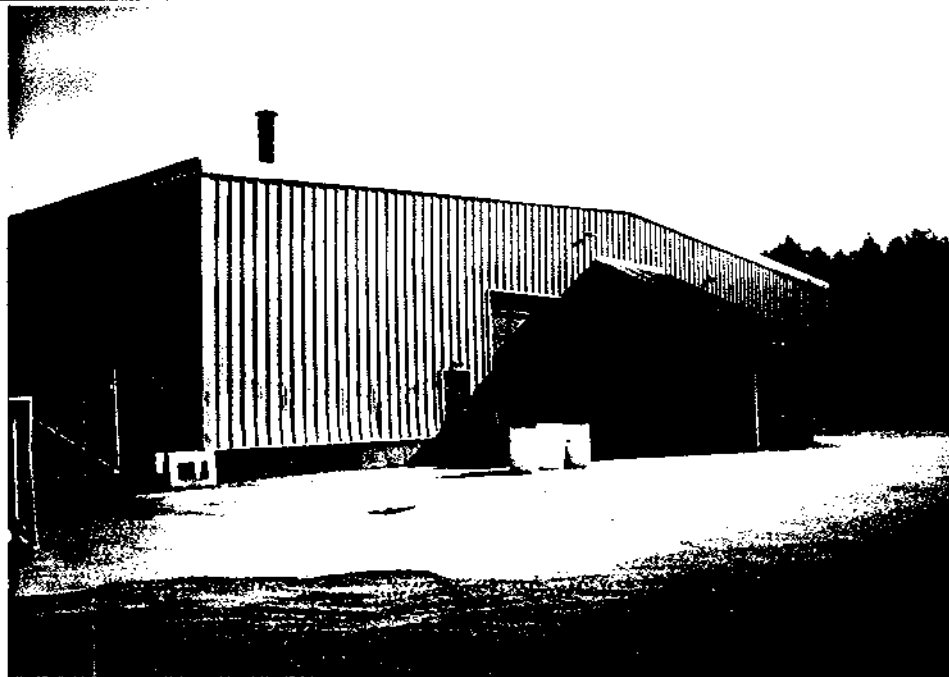


Photo 2. View of building on subject property, facing northeast.

FIGURE B-1: Photographs of Subject Property.

COCA COLA PROPERTY
Route 14
East Montpelier, VT

SHEVENELL~GALLEN and Associates, Inc.
195 Commerce Way
Portsmouth, New Hampshire 03801

APPENDIX C
Site Specific Health and Safety Plan

SHEVENELL~GALLEN and Associates, Inc.

Site Safety Plan

Project Number	<u>C-8271-0203</u>
Project Name	<u>COACOLA / E. MONTPELIER</u>
Site Location	<u>RT. 14, E. MONTPELIER, VT.</u>
Project Manager	<u>MJE / MSF</u>
Scope of Work	<u>H1 (HST4-FOLLOWUP)</u>
Field Date/Time	<u>4-26-93</u>

SHEVENELL~GALLEN and Associates, Inc.
Site Safety Plan

1. Communication

Date 4/26/93
Project Manager MJF

Project Number C-8271-
Project Name COCACOLA / E. MONTPELIER

On-Site Command:

On-Site Coordinator (OSC) MJF
Health/Safety Officer (HSO) MJF

Responsibilities:

Site-specific Project Management.
OSM Logs, Incident Reports, HazEv, PPE.

The PM, OSC, and HSO may be the same person for work plans of limited scope.

Project Contacts

Client ED BRYANT Company COCACOLA OF N.E.
Client Contact DAVE LANOSE Telephone # 802/655-9660 (WINNERS, VT)
Site Contact JENNY DUMAS, SITE MANAGER (802-655-9660)

Regulatory Contacts

Federal Agency Reps N/A

→ State Agency Reps LYNDA WEDGESPON, DEC

Local Agency Reps FD

Fire/Law Enforcement Reps N/A

Subcontractor(s)

GREAT WATERS TEST BOUNDS - DAVE DIGNIE

Communication Procedures

All personnel arriving or departing the site should log in and out with the HSO. All activities on site must be cleared through the OSC. The details of any incidents should be reported to the OSC for decisions, and to the HSO for HASP procedures and any necessary off-site communications.

The *emergency signal* to indicate that all personnel should leave the Exclusion Zone is (1 - whistle). Details of *Emergency Procedures* is given in that section of the SSP.

For sites where two-way radio communication is deemed necessary by the HSO, Channel has been designated as the radio frequency for personnel in the Exclusion Zone. All other on-site communications will use Channel . Personnel in the Exclusion Zone should remain in constant radio communication or within sight of the OSC. Any failure of radio communication requires an evaluation by the HSO/OSC of whether personnel should leave the Exclusion Zone.

The following standard hand signals will be used in place of radio communication:

Hand gripping throat-----	Out of air, can't breathe.
Grip partner's wrist/Both hands around waist--	Leave area immediately.
Hands on top of head-----	Need assistance.
Thumbs up-----	Yes; OK; I am all right; I understand.
Thumbs down-----	No; Negative.

Telephone communication to and from the Support Zone should be established for long-term projects. The phone number at the site is (207) 233-0657.
cellular phone

SHEVENELL-GALLEN and Associates, Inc.
Site Safety Plan

3. Hazard Evaluation

Date 4/24/93
Project Manager MSF

Project Number 8271
Project Name CORONA / E. MONTICELLO

Chemical Hazards

Recorded Use of Hazardous Materials at Site DIESEL, GASOLINE, #2 F/O

Suspected Use of Hazardous Materials at Site N/A

Physical Hazards

Known Utilities at Site BULLITT POWER CO., NET, WASHINGTON TEL.

DigSafe Number and Start Date/Time # 93174027 / 4-23-93 / 2pm

Construction Equipment to be used on Site BOMADISON DRILL RIG

Traffic Areas WT. 14

Noise Sources N/A

Excavations/Trenching on Site N/A

Number of Exits from Excavation Area N/A
CAUTION! If the area has only one exit, it is a confined space and an Entry Plan is required.

Operational Hazards

Strong Wind Direction and Speed N/A

Terrain or Weather Hazards STEEP SLOPES TO S + W

Expected Temperatures 50° S

Access Difficulties N/A

Biological Hazards N/A

Additional Information/Observations

SHEVENELL~GALLEN and Associates, Inc.
Site Safety Plan

4. Personnel Protection

Date 4/26/93
Project Manager MTJF

Project Number 8271
Project Name COALCOA / E. PORT-PELIER

Basic Equipment List (BEL)

All Field Personnel shall be supplied with the following minimum equipment for all field activities:

Standard Clothing-	<u>Modified Level D</u> (work clothes/coveralls, hard hat, safety glasses, steel-toed/shanked boots, work gloves, foul weather suit).
Safety Equipment-	Half-face respirator and cartridges, Nitrile™ and latex gloves, Tyvec™ coverall, chemically-resistant steel toe/shank boots, earplugs/muffs, blaze-orange traffic vest, CAUTION tape.
Emergency Equipment-	First Aid kit, personal eye-wash bottle, Class-ABC 1-liter fire extinguisher.
Sampling Equipment-	Nylon cord, soil and groundwater sample containers, bailers, trowel, bailing bucket, cooler and cold-packs.
Miscellaneous Equipment-	Duct tape, well-keys, padlocks, screwdrivers, socket wrench, pry-bar, bolt cutters, vise grip distilled water, paper towels, refuse bags.

It is the responsibility of the employee to maintain an up-to-date supply of BEL items.

Additional Equipment List (AEL)

All SHEVENELL~GALLEN and Associates, Inc., personnel shall be equipped with the following additional items specific to the field activities to be performed, at the direction of the PM/OSC/HSO:

Personnel Protection Equipment (PPE)

Based on the evaluation of potential hazards, the following levels of personal protection for all site personnel have been designated by the HSO for the applicable work areas or tasks:

<u>Location</u>	<u>Assigned Task</u>	<u>Level of Protection</u>
Exclusion Zone (EZ)	<u>SHUTTING</u>	A B C <u>(D)</u>
Contamination Reduction Zone (CRZ)	<u> </u>	A B C <u>(D)</u>
Support Zone (SZ)	<u> </u>	A B C <u>(D)</u>

Definitions of these Levels and the inclusive equipment are given in the HASP.

Due to the presence of specific hazardous materials at the subject property, the following materials are recommended for use in the assigned PPE:

If air-purifying respirators have been authorized (Level C and above), the appropriate canisters for use with the involved substances and concentrations shall be issued by the PM/OSC/HSO.

Site activities shall be monitored as defined by the HASP, and at the discretion of the PM/OSC/HSO. The following monitoring instruments will be needed for this specific site:

Periodic monitoring of the individual workers for signs of heat, cold, or exhaustive stresses or chemical exposure are to be scheduled as follows:

Evidence of a **medical emergency** is to be reported to the PM/OSC/HSO immediately, and handled according to *Emergency Procedures*.

NO CHANGES TO THE SPECIFIED LEVELS AND/OR MATERIALS OF PERSONNEL PROTECTIVE EQUIPMENT SHALL BE MADE WITHOUT THE APPROVAL OF THE PM/OSC/HSO.

SHEVENELL~GALLEN and Associates, Inc.
Site Safety Plan

5. Decontamination Procedures

Date 4/26/93
Project Manager HJF

Project Number 8271
Project Name COALCOA / E. PORTPELIER

Decontamination Procedures Checklist

Personnel and equipment leaving the Exclusion Zone shall be thoroughly decontaminated to the degree determined by the PM/OSC/HSO. The decontamination protocols shall be as described in the HASP. The general procedures are as follows:

- Definition of and restricting access to the Contamination Reduction Zone (CRZ).
- Equipping of personnel performing Decon activities.
- Supplying of CRZ with appropriate materials.
- Performance of Decon activities on work party(ies).
- Collection and proper disposal of wastes from the CRZ.

Personnel performing decontamination activities shall be equipped with a level of PPE equal to or no less than one level below the level assigned to the work party.

The following decontamination equipment will be required for this specific project:

<input checked="" type="checkbox"/>	decontamination solution and mixing container(s)
<input checked="" type="checkbox"/>	cleaning implements
<input checked="" type="checkbox"/>	waste receptacle/non-contaminated goods
<input checked="" type="checkbox"/>	waste receptacle/contaminated goods
<input checked="" type="checkbox"/>	distilled water
<input checked="" type="checkbox"/>	hose or hand pump with appropriate water supply
<input type="checkbox"/>	curtained shower area/changing room
<input type="checkbox"/>	eye and/or hand wash station
<input type="checkbox"/>	respirator fitting, equipping, and cleaning station

Alconox™ detergent and distilled water is typically used as the decontamination solution for PPE, and methanol for the field equipment.

Emergency Decontamination Procedures

The emergency decontamination protocols shall be as described in the Health and Safety Plan. The general procedures are as follows:

- Assessment by the PM/OSC/HSO of the injury/emergency versus the level of contamination present, and removal of the injured/distressed party(ies) to the CRZ or the SZ, as necessary.
- Decontamination of the party to the extent necessary to address the injury/emergency.
- Notification of appropriate emergency services.
- First Aid or repairs to party(ies) or equipment as necessary while awaiting emergency services.

SHEVENELL-GALLEN and Associates, Inc.
Site Safety Plan

6. Emergency Planning

Date 4/26/93
Project Manager MMF

Project Number 8271
Project Name COCKCOCK / EAST MONTPELIER

Emergency Information

Nearest Telephone is Located VEHICLE (CELLULAR)

	<u>Contact</u>	<u>Telephone #</u>
Local/State Police	<u>(MONTPELIER)</u>	<u>229-9191</u>
Hospital	<u>(MONTPELIER)</u>	
Fire / Rescue	<u>(MONTPELIER)</u>	<u>223-5555</u>
Airport		
Poison Hotline/Toxicologist		
Client/Contact Person	<u>JEFFREY DUMAS</u>	<u>802/655-7660</u>
Electrical Utility	<u>BREEDING POWER CO.</u>	<u>-</u>
Natural Gas Utility	<u>X (N/A)</u>	<u>-</u>
Sewer District	<u>X (SEPTIC)</u>	<u>-</u>
Water District	<u>X (MONTPELIER) -> CRYSTAL SPRINGS WATER CO.</u>	
Telephone Utility	<u>NET, WASHINGTON TEL.</u>	<u>-</u>
DEP Incident Hotline	<u>DEC / HMMO</u>	<u>802/244-8702</u>
Other-	<u>E. MONTPELIER / TOWN CLERK</u>	<u>802/223-3313</u>

Instructions to Rescue/Emergency Personnel should include, in addition to the nature of the incident, the following information:

Site Address/Contact Person MARK FISHER

Directions to the site RT. 14 FROM E. MONTPELIER

Major cross streets NONE

Site Access RT. 14 -> ACCESS ROAD

Neighborhood Concerns NONE

Emergency Procedures

The standard emergency procedures as defined by the HASP will be used by all on-site personnel. The Project Manager (PM), On-Site Coordinator (OSC), and/or Health and Safety Officer (HSO) shall be notified of any on-site emergencies, and be responsible for ensuring that the appropriate procedures are followed.

Designated Emergency Signals, and two or more Emergency Escape Routes, must be decided upon at the OSM, and clearly understood by all authorized personnel on-site.

Signals and Escape Routes selected for this site are:

Emergency Signal 1 - WHISTLE

All-Clear Signal 3 - WHISTLE

Emergency Escape Routes W. 14

Evacuation of the Exclusion Zone: personnel shall not reenter until:

1. The conditions resulting in the emergency have been corrected;
2. The hazards have been reassessed by the PM/OSC/HSO;
3. The Site Safety Plan has been reviewed;
4. Site personnel have been briefed on any changes in the Site Safety Plan.

First Aid Equipment shall be available at the following locations within the Support Zone:

First Aid Kit	<u>VEHICLE</u>
Emergency Eye Wash	<u>VEHICLE</u>
Emergency Shower	<u>/</u>
_____	_____

Emergency Medical Information for potentially hazardous substances known to be present:

<u>Substance</u>	<u>Exposure Symptoms</u>	<u>First Aid Instructions</u>
<u>PETROLEUM</u>	<u>DIZZINESS, NAUSEA,</u>	<u>AIR, WASHING</u>
	<u>HEADACHE, ITCHING</u>	

SHEVENELL-GALLEN and Associates, Inc.
Site Safety Plan

7. References

Date 4/26/93
Project Manager HJK

Project Number 8271
Project Name COCACOLA / E. SHEVENELL

The following Maps, Reports, and Photographs are attached for reference:

USTEA - REPORT, C-8271-01/(12-30-92)

SHEVENELL~GALLEN and Associates, Inc.
Site Safety Plan

8. Additional Documents

Date 4/26/93
Project Manager NJR

Project Number 8271
Project Name COCKCOCK / E. PLATTEAU

The following Permits, MSDS sheets, Manifests, etc., are attached:

- GASOLINE
- DIESEL
- #2 OIL

SHEVENELL~GALLEN and Associates, Inc.
Site Safety Plan

9. Site Activity/Incident Report

Date 4/26/93
Project Manager MSF

Project Number 8271
Project Name COLICOLA / E. ITAPUECH

Scope of Work

- | | |
|-----------------------|----------------------|
| 1. 15 TEST BOUNDS | 6. ASSESSMENT |
| 2. 4 MONITORING WELLS | 7. SENSITIVE WELLS |
| 3. SOIL SAMPLING | 8. STATE FILE REVIEW |
| 4. GW-SAMPLING, X2 | |
| 5. SLUG TESTING | |

Tasks Performed

- 1.
- 2.
- 3.
- 4.
- 5.

Incident Report

Date, Time and Location of Incident N/A

Incident Report N/A

Recommendations for Further Actions or Medical Monitoring N/A

SHEVENELL~GALLEN and Associates, Inc.
Site Safety Plan

10. On-Site Meeting and Entry Logs

Date 4/26/93
Project Manager MJF

Project Number C-8271
Project Name COXACOLA / E. MONTPELIER

The PM/OSC/HSO (name) MJF, has been designated to coordinate access and control security on-site. All workers at and visitors to the site must log-in with this person. Persons authorized to enter the Exclusion Zone must also review and sign the SSP and HASP.

The on-site Support Zone and log-in area have been established at VEHICLE
The boundaries of the Exclusion Zone are demarcated by VEHICLE / TAPE

No unauthorized person(s) should be present within the Exclusion Zone.

On-Site Meeting (OSM) Log

The undersigned site personnel and authorized visitors have reviewed the Site-Specific and General Health and Safety Plans and are familiar with the provisions therein.

<u>Name</u>	<u>Representing</u>	<u>Signature</u>
PM/OSC/HSO: <u>MJF</u>	<u>SGA, Inc.</u>	<u>[Signature]</u>
<u>DAVE DIONNE</u>	<u>GWTS</u>	<u>[Signature] 4/26/93</u>
<u>[Signature]</u>	<u>GWTS</u>	<u>[Signature] 4/26/93</u>

Site Entry Log

<u>Name</u>	<u>Representing</u>	<u>Onsite Time</u>	<u>Offsite Time</u>	<u>Initials</u>
<u>COXACOLA EMPLOYEES</u>	<u>[Signature]</u>			

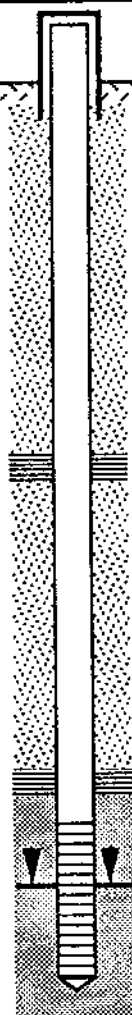
APPENDIX D
Boring Logs
and
Monitoring Well Construction Details

Project No: C-8271-02:03
 Contractor: GWTB
 Logged by: MJF
 Drilling Method: HSA

Project Name: Coca-Cola/VT
 Date Completed: 4/26/93
 Location: 100± feet NNE of building
 Total Depth: 60.0 feet

BORING NO: B-1
 Surface Elevation: 740.74 ft
WELL NO: SG-1
 Wellhead Elevation: 743.50 ft

Sheet 1 of 1

Depth (feet)	Sample Depth (feet)	Blows per 6 inches	Recovery (inches)	Soil Boring Log	PID* (ppm)	Monitoring Well Log		Well Detail
0	0' - 2'	1,3, 4,5	18"	brown, silty SAND (topsoil).	0.0	Standpipe Height	2.76'	
5	5' - 7'	5,4, 9,10	14"	tan-grey, f-m silty SAND; dry, finely laminated.	0.2	Cement Seal Bottom of Casing	0.5' -2.24'	
10	10' - 12'	4,4, 6,6	16"	grey-brown, clay SILT; fine sandy laminae, wet.	0.7	Riser Material Inside Diameter Back Fill Material	PVC 2.0" native	
15	15' - 17'	9,13, 16,9	20"	(as above)	1.1			
20	20' - 22'	7,13, 13,16	18"	(as above)	1.3			
25	25' - 27'	8,16, 20,22	16"	12"/grey-brown, clay SILT to 4"/tan-grey, fine sandy SILT	1.1	Top of Bentonite	-25.0'	
30	30' - 32'	8,19, 20,23	16"	tan-grey, fine sandy SILT; dry, finely laminated.	1.3			
35	35' - 37'	19,32, 29,22	20"	(as above)	1.4			
40	40' - 42'	14,18, 28,28	16"	(as above)	1.4	Top of Bentonite Top of Sand Pack Type of Sand Pack	-47.5' -48.5' filter	
45	45' - 47'	14,22, 32,37	14"	(as above)	1.4	Top of Screen Screen Material Inside Diameter	-50.0' PVC 2.0"	
50	50' - 52'	16,36, 49,58	18"	(as above)	1.6	Slot Size Water Level (5/17/93)	0.01" -54.21'	
55	55' - 57'	9,27, 37,40	20"	tan-grey, fine sandy SILT; saturated.	1.5	Bottom of Screen Depth of Bore Hole	-60.0' -60.0'	
60						Bore Hole Diameter	7.75"	

Remarks: PID calibrated to 100 ppm isobutylene, and then adjusted to display values which are equivalent to benzene. No odors or staining indicative of petroleum were observed during the advancement of the boring. Depth measurements given in feet below ground surface.

Test Boring Log and Monitoring Well Construction Detail for B-1/SG-1.

COCA-COLA PROPERTY
 Route 14
 East Montpelier, Vermont

SHEVENELL-GALLEN and Associates, Inc.
 195 Commerce Way
 Portsmouth, New Hampshire 03801

Project No: C-8271-02:03
 Contractor: GWTB
 Logged by: MJF
 Drilling Method: HSA

Project Name: Coca-Cola/VT
 Date Completed: 4/26/93
 Location: 10± feet east of former gasoline UST excavation
 Total Depth: 32.0 feet

BORING NO: B-2
 Surface Elevation: 741.86 feet

Sheet 1 of 1

Depth (feet)	Sample Depth (feet)	Blows per 6 inches	Recovery (inches)	Soil Description	USCS Log	PID* (ppm)
0	0' - 2'	2,5, 6,8	24"	brown, silty SAND (topsoil).		1.4
5	5' - 7'	5,6, 10,11	18"	tan-grey, f-m silty SAND; dry, finely laminated.	SM	1.4
10	10' - 12'	5,4, 5,7	16"	grey-brown, clay SILT; fine sandy laminae, wet.		1.6
15	15' - 17'	3,6, 11,15	14"	(as above)	ML	1.5
20	20' - 22'	7,7, 9,15	18"	(as above)		1.5
25	25' - 27'	14,10, 17,17	16"	12"/grey-brown, clay SILT to 4"/tan-grey, fine sandy SILT.		1.5
30	30' - 32'	8,16, 21,22	18"	tan-grey, fine sandy SILT; dry, finely laminated.	MH	1.5
35						

Remarks: PID calibrated to 100 ppm isobutylene, and then adjusted to display values which are equivalent to benzene. No odors or staining indicative of petroleum were observed during the advancement of the boring. USCS designations given for each stratigraphic unit.

Test Boring Log for B-2.

COCA-COLA PROPERTY
 Route 14
 East Montpelier, Vermont

SHEVENELL~GALLEN and Associates, Inc.
 195 Commerce Way
 Portsmouth, New Hampshire 03801

Project No: C-8271-02:03

Project Name: Coca-Cola/VT

BORING NO: B-3

Contractor: GWTB

Date Completed: 4/26/93

Surface Elevation: 742.95 feet

Logged by: MJF

Location: 10± feet southeast of former gasoline UST excavation

Drilling Method: HSA

Total Depth: 32.0 feet

Sheet 1 of 1

Depth (feet)	Sample Depth (feet)	Blows per 6 inches	Recovery (inches)	Soil Description	USCS Log	PID* (ppm)
0	1' - 3'	8,8, 10,11	12"	brown, medium to coarse SAND and gravel (fill).		1.6
5	5' - 7'	10,14, 10,9	16"	grey-brown, silty CLAY; wet, dense, homogeneous.	CL	1.6
10	10' - 12'	4,4, 6,6	14"	grey-brown, clay SILT; fine sandy laminae, wet.	ML	1.7
15	15' - 17'	2,3, 5,6	16"	(as above)		1.7
20	20' - 22'	4,8, 10,12	18"	(as above)		1.7
25	25' - 27'	11,12, 18,18	20"	(as above)		1.8
30	30' - 32'	15,30, 36,45	22"	tan-grey, fine sandy SILT; dry, finely laminated.	MH	1.8
35						

Remarks: PID calibrated to 100 ppm isobutylene, and then adjusted to display values which are equivalent to benzene. No odors or staining indicative of petroleum were observed during the advancement of the boring. USCS designations given for each stratigraphic unit.

Test Boring Log for B-3.

COCA-COLA PROPERTY
Route 14
East Montpelier, Vermont

SHEVENELL-GALLEN and Associates, Inc.
195 Commerce Way
Portsmouth, New Hampshire 03801

Project No: C-8271-02:03
 Contractor: GWTB
 Logged by: MJF
 Drilling Method: HSA

Project Name: Coca-Cola/VT
 Date Completed: 4/26/93
 Location: 10± feet south of former gasoline UST excavation
 Total Depth: 32.0 feet

BORING NO: B-4
 Surface Elevation: 743.71 feet

Sheet 1 of 1

Depth (feet)	Sample Depth (feet)	Blows per 6 inches	Recovery (inches)	Soil Description	USCS Log	PID* (ppm)
0	1' - 3'	25,26, 22,20	NR	brown, medium to coarse SAND and gravel (fill).		NR
5	5' - 7'	5,8, 9,23	24"	grey-brown, silty CLAY; wet, dense, homogeneous.	CL	1.8
10	10' - 12'	9,11, 10,11	16"	6"/tan-grey, fine to medium silty SAND to 10"/grey-brown, clay SILT.	SM	1.8
15	15' - 17'	4,5, 7,8	22"	grey-brown, clay SILT; fine sandy laminae, wet.	ML	1.8
20	20' - 22'	4,4 7,9	18"	(as above)		1.9
25	25' - 27'	4,7, 17,20	16"	(as above)		1.9
30	30' - 32'	10,25, 25,33	18"	tan-grey, fine sandy SILT; dry, finely laminated.	MH	1.9
35						

Remarks: PID calibrated to 100 ppm isobutylene, and then adjusted to display values which are equivalent to benzene. No odors or staining indicative of petroleum were observed during the advancement of the boring. USCS designations given for each stratigraphic unit.

Test Boring Log for B-4.

COCA-COLA PROPERTY
 Route 14
 East Montpelier, Vermont

SHEVENELL-GALLEN and Associates, Inc.
 195 Commerce Way
 Portsmouth, New Hampshire 03801

Project No: C-8271-02:03
 Contractor: GWTB
 Logged by: MJF
 Drilling Method: HSA

Project Name: Coca-Cola/VT
 Date Completed: 4/27/93
 Location: 16± feet N of building
 Total Depth: 61.0 feet

BORING NO: B-5
 Surface Elevation: 742.51 ft
WELL NO: SG-2
 Wellhead Elevation: 742.26 ft

Sheet 1 of 1

Depth (feet)	Sample Depth (feet)	Blows per 6 inches	Recovery (inches)	Soil Boring Log	PID* (ppm)	Monitoring Well Log		Well Detail
0	0' - 2'	17,20, 22,26	12"	brown, medium to coarse SAND and gravel (fill).	2.5	Roadbox Diameter	9.0"	
5	5' - 7'	8,10, 10,12	16"	grey-brown, silty CLAY; wet, dense, homogeneous.	3.3	Riser Material	PVC	
10	10' - 12'	10,12, 12,13	18"	grey-brown, clay SILT; fine sandy laminae, wet.	2.6	Inside Diameter	2.0"	
15	15' - 17'	3,4, 8,10	20"	(as above)	2.7	Back Fill Material	native	
20	20' - 22'	5,4, 4,5	20"	(as above)	2.8			
25	25' - 27'	6,6, 6,9	18"	(as above)	2.8			
30	30' - 32'	7,8, 10,12	18"	(as above)	2.8			
35	35' - 37'	10,18, 21,22	16"	8"/grey-brown, clay SILT to 12"/tan-grey, fine sandy SILT	2.9	Top of Bentonite	-35.0'	
40	40' - 42'	10,22, 25,20	16"	tan-grey, fine sandy SILT; dry, finely laminated.	2.9	Top of Bentonite	-47.5'	
45	45' - 47'	12,20, 31,35	14"	(as above)	3.0	Top of Sand Pack	-49.0'	
50	50' - 52'	16,31, 34,33	16"	(as above)	3.2	Type of Sand Pack	filter	
55	55' - 57'	18,24, 31,33	18"	tan-grey, fine sandy SILT; saturated.	3.3	Top of Screen	-51.0'	
60						Screen Material	PVC	
						Inside Diameter	2.0"	
						Slot Size	0.01"	
						Water Level (5/17/93)	-55.39'	
						Bottom of Screen	-61.0'	
						Depth of Bore Hole	-61.0'	
						Bore Hole Diameter	7.75"	

Remarks: PID calibrated to 100 ppm isobutylene, and then adjusted to display values which are equivalent to benzene. No odors or staining indicative of petroleum were observed during the advancement of the boring. Depth measurements given in feet below ground surface.

Test Boring Log and Monitoring Well Construction Detail for B-5/SG-2.

COCA-COLA PROPERTY
 Route 14
 East Montpelier, Vermont

SHEVENELL~GALLEN and Associates, Inc.
 195 Commerce Way
 Portsmouth, New Hampshire 03801

Project No: C-8271-02:03
Contractor: GWTB
Logged by: MJF
Drilling Method: HSA

Project Name: Coca-Cola/VT
Date Completed: 4/27/93
Location: 10± feet west of former gasoline UST excavation
Total Depth: 27.0 feet

BORING NO: B-6
Surface Elevation: 741.98 feet

Sheet 1 of 1

Depth (feet)	Sample Depth (feet)	Blows per 6 inches	Recovery (inches)	Soil Description	USCS Log	PID* (ppm)
0	1' - 3'	15,17, 18,17	14"	brown, medium to coarse SAND and gravel (fill).		1.3
5	5' - 7'	4,5, 11,13	16"	grey-brown, silty CLAY; wet, dense, homogeneous. Odor of weathered gasoline.	CL	524
10	10' - 12'	4,6, 7,6	18"	grey-brown, clay SILT; fine sandy laminae, wet. Odor of weathered gasoline.		413
15	15' - 17'	4,4, 6,7	16"	(as above)	ML	37.5
20	20' - 22'	4,4, 4,6	16"	grey-brown, clay SILT; fine sandy laminae, wet. No petroleum odors.		2.9
25	25' - 27'	4,6, 11,11	20"	(as above)		2.2
30				Boring stopped at low PID readings, to avoid potential cross-contamination of underlying sandy-silt layer.		

Remarks: PID calibrated to 100 ppm isobutylene, and then adjusted to display values which are equivalent to benzene. No odors or staining indicative of petroleum were observed during the advancement of the boring. USCS designations given for each stratigraphic unit.

Test Boring Log for B-6.

COCA-COLA PROPERTY
Route 14
East Montpelier, Vermont

SHEVENELL-GALLEN and Associates, Inc.
195 Commerce Way
Portsmouth, New Hampshire 03801

BORING NO: B-7

Surface Elevation: 741.71 feet

Location: 20± feet west of former gasoline UST excavation

Total Depth: 17.0 feet

Sheet 1 of 1

Depth (feet)	Sample Depth (feet)	Blows per 6 inches	Recovery (inches)	Soil Description	USCS Log	PID* (ppm)
0	1' - 3'	17,21, 17,13	14"	brown, medium to coarse SAND and gravel (fill).		1.9
5	5' - 7'	7,6, 7,8	14"	grey-brown, silty CLAY; wet, dense, homogeneous. <u>Odor of weathered gasoline.</u>	CL	18.8
10	10' - 12'	4,4, 6,8	18"	grey-brown, clay SILT; fine sandy laminae, wet. Odor of weathered gasoline.	ML	56.1
15	15' - 17'	3,6, 6,7	16"	grey-brown, clay SILT; fine sandy laminae, wet. <u>No petroleum odors.</u>		1.7
20						
				Boring stopped at low PID readings, to avoid potential cross-contamination of underlying sandy-silt layer.		

Remarks: PID calibrated to 100 ppm isobutylene, and then adjusted to display values which are equivalent to benzene. No odors or staining indicative of petroleum were observed during the advancement of the boring. USCS designations given for each stratigraphic unit.

Test Boring Log for B-7.

COCA-COLA PROPERTY
Route 14
East Montpelier, Vermont

SHEVENELL-GALLEN and Associates, Inc.
195 Commerce Way
Portsmouth, New Hampshire 03801

Project No: C-8271-02:03

Contractor: GWTB

Logged by: MJF

Drilling Method: HSA

Project Name: Coca-Cola/VT

Date Completed: 4/27/93

Location: 30± feet west of former gasoline UST excavation

Total Depth: 27.0 feet

BORING NO: B-8

Surface Elevation: 741.39 feet

Sheet 1 of 1

Depth (feet)	Sample Depth (feet)	Blows per 6 inches	Recovery (inches)	Soil Description	USCS Log	PID* (ppm)
0	1' - 3'	15,15, 11,10	12"	brown, medium to coarse SAND and gravel (fill).		1.0
5	5' - 7'	4,10, 10,11	18"	grey-brown, silty CLAY; wet, dense, homogeneous.	CL	1.5
10	10' - 12'	3,7, 6,8	20"	grey-brown, clay SILT; fine sandy laminae, wet.		8.3
15	15' - 17'	4,6, 6,8	18"	(as above)	ML	2.3
20	20' - 22'	5,10, 8,10	22"	(as above)		2.4
25	25' - 27'	24,19, 19,24	20"	tan-grey, fine sandy SILT; dry, finely laminated.	MH	1.7
30						

Remarks: PID calibrated to 100 ppm isobutylene, and then adjusted to display values which are equivalent to benzene. No odors or staining indicative of petroleum were observed during the advancement of the boring. USCS designations given for each stratigraphic unit.

Test Boring Log for B-8.

COCA-COLA PROPERTY
Route 14
East Montpelier, Vermont

SHEVENELL~GALLEN and Associates, Inc.
195 Commerce Way
Portsmouth, New Hampshire 03801

Project No: C-8271-02:03
Contractor: GWTB
Logged by: MJF
Drilling Method: HSA

Project Name: Coca-Cola/VT
Date Completed: 4/27/93
Location: 10± feet northwest of former gasoline UST excavation
Total Depth: 32.0 feet

BORING NO: B-9
Surface Elevation: 741.40 feet

Sheet 1 of 1

Depth (feet)	Sample Depth (feet)	Blows per 6 inches	Recovery (inches)	Soil Description	USCS Log	PID* (ppm)
0	1' - 3'	20,31, 15,8	12"	brown, medium to coarse SAND and gravel (fill).		1.4
5	5' - 7'	6,7, 8,9	16"	grey-brown, silty CLAY; wet, dense, homogeneous.	CL	3.4
10	10' - 12'	3,6, 7,8	20"	grey-brown, clay SILT; fine sandy laminae, wet.	ML	8.6
15	15' - 17'	5,7, 9,10	18"	(as above)		1.7
20	20' - 22'	5,10, 15,14	20"	(as above)		2.3
25	25' - 27'	7,14, 14,18	18"	(as above)		1.9
30	30' - 32'	8,23, 24,32	12"	tan-grey, fine sandy SILT; dry, finely laminated.	MH	1.5
35						

Remarks: PID calibrated to 100 ppm isobutylene, and then adjusted to display values which are equivalent to benzene. No odors or staining indicative of petroleum were observed during the advancement of the boring. USCS designations given for each stratigraphic unit.

Test Boring Log for B-9.

COCA-COLA PROPERTY
Route 14
East Montpelier, Vermont

SHEVENELL~GALLEN and Associates, Inc.
195 Commerce Way
Portsmouth, New Hampshire 03801

Project No: C-8271-02:03
 Contractor: GWTB
 Logged by: MJF
 Drilling Method: HSA

Project Name: Coca-Cola/VT
 Date Completed: 4/28/93
 Location: 10± feet north of former gasoline UST excavation
 Total Depth: 32.0 feet

BORING NO: B-10
 Surface Elevation: 740.86 feet

Sheet 1 of 1

Depth (feet)	Sample Depth (feet)	Blows per 6 inches	Recovery (inches)	Soil Description	USCS Log	PID* (ppm)
0	1' - 3'	4,4, 4,5	12"	brown, medium to coarse SAND and gravel (fill).		2.7
5	5' - 7'	7,9, 8,10	20"	grey-brown, silty CLAY; wet, dense, homogeneous.	CL	2.4
10	10' - 12'	8,8, 5,5	18"	grey-brown, clay SILT; fine sandy laminae, wet.		2.6
15	15' - 17'	4,8, 4,10	20"	(as above)	ML	2.6
20	20' - 22'	6,10, 11,13	16"	(as above)		3.0
25	25' - 27'	5,12, 15,20	16"	(as above)		0.7
30	30' - 32'	7,10, 11,12	18"	tan-grey, fine sandy SILT; dry, finely laminated.	MH	0.7
35						

Remarks: PID calibrated to 100 ppm isobutylene, and then adjusted to display values which are equivalent to benzene. No odors or staining indicative of petroleum were observed during the advancement of the boring. USCS designations given for each stratigraphic unit.

Test Boring Log for B-10.

COCA-COLA PROPERTY
 Route 14
 East Montpelier, Vermont

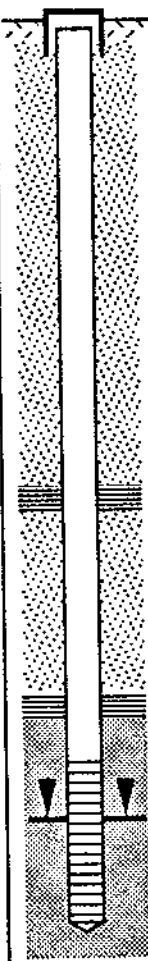
SHEVENELL~GALLEN and Associates, Inc.
 195 Commerce Way
 Portsmouth, New Hampshire 03801

Project No: C-8271-02:03
 Contractor: GWTB
 Logged by: MJF
 Drilling Method: HSA

Project Name: Coca-Cola/VT
 Date Completed: 4/28/93
 Location: 32± feet WSW of building
 Total Depth: 60.0 feet

BORING NO: B-11
 Surface Elevation: 743.84 ft
 WELL NO: SG-3
 Wellhead Elevation: 743.59 ft

Sheet 1 of 1

Depth (feet)	Sample Depth (feet)	Blows per 6 inches	Recovery (inches)	Soil Boring Log	PID* (ppm)	Monitoring Well Log		Well Detail
0	0' - 2'	25,19, 16,12	14"	brown, medium-coarse SAND and gravel (fill).	0.4	Roadbox Diameter Cement Seal Bottom of Casing	9.0" -0.5' -1.0'	
5	5' - 7'	10,14, 13,13	18"	grey-brown, silty CLAY; wet, dense, homogeneous.	0.4	Riser Material Inside Diameter Back Fill Material	PVC 2.0" native	
10	10' - 12'	8,9, 11,10	20"	tan-grey, f-m silty SAND; dry, finely laminated.	0.5			
15	15' - 17'	8,14, 20,19	22"	(as above)	0.5			
20	20' - 22'	5,9, 13,16	20"	grey-brown, clay SILT; fine sandy laminac, wet.	0.4			
25	25' - 27'	12,15, 14,24	22"	(as above)	0.5			
30	30' - 32'	9,16, 16,20	20"	(as above)	0.6	Top of Bentonite	-32.0'	
35	35' - 37'	12,27, 25,28	24"	tan-grey, fine sandy SILT; dry, finely laminated.	0.4			
40	40' - 42'	22,33, 41,57	20"	(as above)	0.4	Top of Bentonite Top of Sand Pack Type of Sand Pack	-46.0' -48.0' filter	
45	45' - 47'	30,64, 64,62	18"	(as above)	0.4	Top of Screen Screen Material Inside Diameter	-50.0' PVC 2.0"	
50	50' - 52'	38,50, 69,67	20"	(as above)	0.5	Slot Size Water Level (5/17/93)	0.01" -53.71'	
55	55' - 57'	10,33, 48,39	20"	tan-grey, fine sandy SILT; saturated.	0.5	Bottom of Screen Depth of Bore Hole	-60.0' -60.0'	
60						Bore Hole Diameter	7.75"	

Remarks: PID calibrated to 100 ppm isobutylene, and then adjusted to display values which are equivalent to benzene. No odors or staining indicative of petroleum were observed during the advancement of the boring. Depth measurements given in feet below ground surface.

Test Boring Log and Monitoring Well Construction Detail for B-11/SG-3.

COCA-COLA PROPERTY
 Route 14
 East Montpelier, Vermont

SHEVENELL-GALLEN and Associates, Inc.
 195 Commerce Way
 Portsmouth, New Hampshire 03801

Project No: C-8271-02:03

Project Name: Coca-Cola/VT

BORING NO: B-12

Contractor: GWTB

Date Completed: 4/28/93

Surface Elevation: 743.89 feet

Logged by: MJF

Location: 10± feet east of former diesel UST excavation

Drilling Method: HSA

Total Depth: 37.0 feet

Sheet 1 of 1

Depth (feet)	Sample Depth (feet)	Blows per 6 inches	Recovery (inches)	Soil Description	USCS Log	PID* (ppm)
0	1' - 3'	10,14, 18,20	12"	brown, medium to coarse SAND and gravel (fill).		0.8
5	5' - 7'	12,18, 25,28	18"	grey-brown, silty CLAY; wet, dense, fine sandy laminae.	CL	0.6
10	10' - 12'	6,8, 10,11	22"	tan-grey, fine to medium silty SAND; dry, finely laminated.	SM	0.5
15	15' - 17'	3,5, 10,8	18"	6"/tan-grey, fine silty SAND to 12"/grey-brown, clay SILT.		0.9
20	20' - 22'	5,11, 14,11	18"	grey-brown, clay SILT; fine sandy laminae, wet.	ML	0.8
25	25' - 27'	4,7, 12,13	20"	(as above)		0.8
30	30' - 32'	13,17, 23,27	18"	(as above)		0.8
35	35' - 37'	15,29, 32,38	20"	tan-grey, fine sandy SILT; dry, finely laminated.	MH	0.7
40				-----		

Remarks: PID calibrated to 100 ppm isobutylene, and then adjusted to display values which are equivalent to benzene. No odors or staining indicative of petroleum were observed during the advancement of the boring. USCS designations given for each stratigraphic unit.

Test Boring Log for B-12.

COCA-COLA PROPERTY
Route 14
East Montpelier, Vermont

SHEVENELL~GALLEN and Associates, Inc.
195 Commerce Way
Portsmouth, New Hampshire 03801

Project No: C-8271-02:03

Project Name: Coca-Cola/VT

BORING NO: B-13

Contractor: GWTB

Date Completed: 4/28/93

Surface Elevation: 743.86 feet

Logged by: MJF

Location: 10± feet northeast of former diesel dispenser excavation

Drilling Method: HSA

Total Depth: 37.0 feet

Sheet 1 of 1

Depth (feet)	Sample Depth (feet)	Blows per 6 inches	Recovery (inches)	Soil Description	USCS Log	PID* (ppm)
0	1' - 3'	27,36, 20,16	14"	brown, medium to coarse SAND and gravel (fill).		0.8
5	5' - 7'	5,10, 12,11	20"	grey-brown, silty CLAY; wet, dense, fine sandy laminae.	CL	0.9
10	10' - 12'	3,5, 8,15	20"	(as above)		0.7
15	15' - 17'	12,14, 15,16	24"	tan-grey, fine to medium silty SAND; dry, finely laminated.	SM	0.8
20	20' - 22'	8,11, 15,19	24"	grey-brown, clay SILT; fine sandy laminae, wet.	ML	0.8
25	25' - 27'	12,14, 17,22	18"	(as above)		0.9
30	30' - 32'	14,15, 16,23	24"	(as above)		0.7
35	35' - 37'	16,27, 34,36	22"	tan-grey, fine sandy SILT; dry, finely laminated.	MH	1.0
40				-----		

Remarks: PID calibrated to 100 ppm isobutylene, and then adjusted to display values which are equivalent to benzene. No odors or staining indicative of petroleum were observed during the advancement of the boring. USCS designations given for each stratigraphic unit.

Test Boring Log for B-13.

COCA-COLA PROPERTY
Route 14
East Montpelier, Vermont

SHEVENELL~GALLEN and Associates, Inc.
195 Commerce Way
Portsmouth, New Hampshire 03801

Project No: C-8271-02:03

Contractor: GWTB

Logged by: MJF

Drilling Method: HSA

Project Name: Coca-Cola/VT

Date Completed: 4/29/93

Location: 10± feet east of former diesel dispenser excavation

Total Depth: 42.0 feet

BORING NO: B-14

Surface Elevation: 743.36 feet

Sheet 1 of 1

Depth (feet)	Sample Depth (feet)	Blows per 6 inches	Recovery (inches)	Soil Description	USCS Log	PID* (ppm)
0	1' - 3'	12,14, 9,8	12"	brown, medium to coarse SAND and gravel (fill).		0.6
5	5' - 7'	4,6, 6,7	24"	grey-brown, silty CLAY; wet, dense, fine sandy laminae.		0.6
10	10' - 12'	3,4, 7,8	24"	(as above)	CL	0.7
15	15' - 17'	5,10, 17,30	20"	(as above)		0.7
20	20' - 22'	28,50, 55,66	20"	(as above)		0.7
25	25' - 27'	23,40, 36,50	18"	12"/tan-grey, fine to medium silty SAND, dry, finely laminated to 6"/grey-brown, clay SILT.	SM	0.7
30	30' - 32'	10,24, 43,48	16"	grey-brown, clay SILT; fine sandy laminae, wet.	ML	0.7
35	35' - 37'	7,15, 24,35	24"	(as above)		0.7
40	40' - 42'	17,25 43,70	20"	6"/ grey-brown, clay SILT to 14"/tan-grey, fine sandy SILT; dry, finely laminated.	MH	0.7
45						

Remarks: PID calibrated to 100 ppm isobutylene, and then adjusted to display values which are equivalent to benzene. No odors or staining indicative of petroleum were observed during the advancement of the boring. USCS designations given for each stratigraphic unit.

Test Boring Log for B-14.

COCA-COLA PROPERTY
Route 14
East Montpelier, Vermont

SHEVENELL~GALLEN and Associates, Inc.
195 Commerce Way
Portsmouth, New Hampshire 03801

Project No: C-8271-02:03

Project Name: Coca-Cola/VT

BORING NO: B-15

Contractor: GWTB

Date Completed: 4/29/93

Surface Elevation: 743.02 feet

Logged by: MJF

Location: 10± feet north of former diesel UST excavation

Drilling Method: HSA

Total Depth: 37.0 feet

Sheet 1 of 1

Depth (feet)	Sample Depth (feet)	Blows per 6 inches	Recovery (inches)	Soil Description	USCS Log	PID* (ppm)
0	1' - 3'	3,4, 3,3	18"	brown, medium to coarse SAND and gravel (fill).		0.6
5	5' - 7'	6,8, 10,11	16"	grey-brown, silty CLAY; wet, dense, fine sandy laminae.	CL	0.5
10	10' - 12'	5,9, 10,9	20"	(as above)		0.5
15	15' - 17'	4,7, 8,10	20"	grey-brown, clay SILT; fine sandy laminae, wet.		0.5
20	20' - 22'	4,6, 6,7	18"	(as above)	ML	0.6
25	25' - 27'	4,10, 14,14	16"	(as above)		0.6
30	30' - 32'	12,13, 13,16	18"	12"/grey-brown, clay SILT to 6"/tan, fine sandy SILT.	MH	0.6
35	35' - 37'	11,18, 29,27	24"	tan-grey, fine sandy SILT; dry, finely laminated.		0.6
40						

Remarks: PID calibrated to 100 ppm isobutylene, and then adjusted to display values which are equivalent to benzene. No odors or staining indicative of petroleum were observed during the advancement of the boring. USCS designations given for each stratigraphic unit.

Test Boring Log for B-15.

COCA-COLA PROPERTY
Route 14
East Montpelier, Vermont

SHEVENELL~GALLEN and Associates, Inc.
195 Commerce Way
Portsmouth, New Hampshire 03801

Project No: C-8271-02:03

Contractor: GWTB

Logged by: MJF

Drilling Method: HSA

Project Name: Coca-Cola/VT

Date Completed: 4/29/93

Location: 160± feet SW of building

Total Depth: 40.0 feet

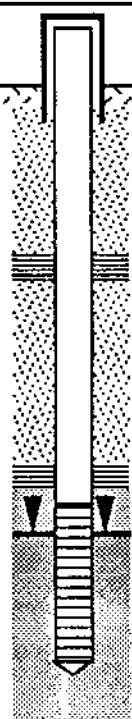
BORING NO: B-16

Surface Elevation: 720.00 ft

WELL NO: SG-4

Wellhead Elevation: 723.01 ft

Sheet 1 of 1

Depth (feet)	Sample Depth (feet)	Blows per 6 inches	Recovery (inches)	Soil Boring Log	PID* (ppm)	Monitoring Well Log		Well Detail
0	0' - 2'	2,2, 2,9	16"	6"/brown SAND (topsoil) to 10"/grey-brown, silty CLAY.	0.6	Standpipe Height	3.01'	
5	5' - 7'	9,8, 8,6	18"	6"/grey-brown, silty CLAY to 12"/tan-brown, f-m SAND.	2.4	Cement Seal Bottom of Casing	-0.5' -1.99'	
10	10' - 12'	4,4, 6,6	16"	grey-brown, clay SILT; fine sandy laminae.	0.7	Riser Material Inside Diameter Back Fill Material Top of Bentonite	PVC 2.0" native -12.0'	
15	15' - 17'	9,9, 10,10	22"	tan-grey, fine sandy SILT; dry, finely laminated.	0.7	Top of Bentonite	-25.0'	
20	20' - 22'	6,8, 12,14	14"	(as above)	0.7	Top of Sand Pack Type of Sand Pack Top of Screen	-26.0' filter -28.0'	
25	25' - 27'	8,11, 12,10	20"	(as above)	0.7	Screen Material Inside Diameter Slot Size	PVC 2.0" 0.01"	
30	30' - 32'	6,10, 7,7	18"	tan-grey, fine sandy SILT; lower 6" saturated.	4.3	Water Level (5/17/93)	-29.00'	
35	35' - 37'	9,9, 11,11	20"	tan-grey, fine sandy SILT; saturated.	0.8	Bottom of Screen Depth of Bore Hole	-38.0' -38.0'	
40						Bore Hole Diameter	7.75"	
45								
50								
55								
60								

Remarks: PID calibrated to 100 ppm isobutylene, and then adjusted to display values which are equivalent to benzene. No odors or staining indicative of petroleum were observed during the advancement of the boring. Depth measurements given in feet below ground surface.

Test Boring Log and Monitoring Well Construction Detail for B-16/SG-4.

COCA-COLA PROPERTY
Route 14
East Montpelier, Vermont

SHEVENELL~GALLEN and Associates, Inc.
195 Commerce Way
Portsmouth, New Hampshire 03801

APPENDIX E
Site Survey Data

APPENDIX E **SURVEY DATA WORK SHEET**

Date: 4/29/93
Job No: C-8271-02-03
Site Location: East Montpelier, VT

Surveyor: Mark J. Fisher
Rod Holder: Brian Hussey

	LOCATION	STADIA ROD READING			Angle	CALCULATED DATA			ERROR Distance (ft)
		Lower	Middle	Upper		Location	Distance	Elevation	
Ref. Location	Station No:	1				Reference Elevation:	720.00		
	SG-4/B-16, GS	14.76	15.19	15.62	181.0	SG-4/B-16, GS	86.0	720.00	0.0
	2 SG-4/B-16, PVC	11.75	12.18	12.61	181.0	SG-4/B-16, PVC	86.0	723.01	0.0
	3 east swale	3.40	3.50	3.60	43.5	east swale	20.0	731.69	0.0
	4 south swale	6.50	6.95	7.40	150.0	south swale	90.0	728.24	0.0
Ref. Location	Station No:	2				Reference Elevation:	731.69		
	east swale	15.32	15.96	16.60	301.5	east swale	128.0	731.69	0.0
	2 south swale	19.09	19.50	19.91	253.5	south swale	82.0	728.15	0.0
	3 B-15	3.90	4.63	5.36	334.0	B-15	146.0	743.02	0.0
	4 B-12	3.25	3.76	4.27	334.0	B-12	102.0	743.89	0.0
	5 SG-3/B-11, GS	3.43	3.81	4.19	328.0	SG-3/B-11, GS	76.0	743.84	0.0
	6 SG-3/B-11, PVC	3.68	4.06	4.44	328.0	SG-3/B-11, PVC	76.0	743.59	0.0
	7 B-13	3.56	3.79	4.02	329.0	B-13	46.0	743.86	0.0
	8 B-14	4.19	4.29	4.39	353.0	B-14	20.0	743.36	0.0
	9 N end/fence	4.57	5.15	5.73	315.0	N end/fence	116.0	742.50	0.0
	10 SW cnr/bldg	3.01	3.38	3.75	352.0	SW cnr/bldg	74.0	744.27	0.0
	11 SW cnr/shed	3.02	3.32	3.62	32.0	SW cnr/shed	60.0	744.33	0.0
	12 SE cnr/shed	2.96	3.29	3.62	41.0	SE cnr/shed	66.0	744.36	0.0
	13 SE cnr/bldg	2.76	3.30	3.84	55.0	SE cnr/bldg	108.0	744.35	0.0
	14 electrical line	4.50	4.65	4.80	78.0	electrical line	30.0	743.00	0.0
	15 W side/OH door	3.05	3.40	3.75	13.0	W side/OH door	70.0	744.25	0.0
Ref. Location	Station No:	3				Reference Elevation:	744.27		
	SW cnr/bldg *	-0.89	0.30	1.49	180.0	SW cnr/bldg *	238.0	744.27	0.0
	2 N end/fence	0.87	2.07	3.27	198.0	N end/fence	240.0	742.50	0.0
	3 NW cnr/bldg	4.85	5.19	5.53	172.0	NW cnr/bldg	68.0	739.38	0.0
	4 drain/edge of road	5.05	5.29	5.53	42.0	drain/edge of road	48.0	739.28	0.0
	5 B-10	3.15	3.71	4.27	86.0	B-10	112.0	740.86	0.0
	6 B-9	2.78	3.17	3.56	90.0	B-9	78.0	741.40	0.0
	7 B-8	2.92	3.18	3.44	111.0	B-8	52.0	741.39	0.0
	8 B-7	2.55	2.86	3.17	110.0	B-7	62.0	741.71	0.0
	9 B-6	2.20	2.59	2.98	107.0	B-6	78.0	741.98	0.0
	10 SG-2/B-5, GS	1.67	2.06	2.45	135.0	SG-2/B-5, GS	78.0	742.51	0.0
	11 SG-2/B-5, PVC	1.92	2.31	2.70	135.0	SG-2/B-5, PVC	78.0	742.26	0.0
	12 B-4	0.33	0.86	1.39	127.0	B-4	106.0	743.71	0.0
	13 B-3	1.00	1.62	2.24	112.0	B-3	124.0	742.95	0.0
	14 B-2	2.02	2.71	3.40	99.0	B-2	138.0	741.86	0.0
	15 SG-1/B-1, GS	3.09	3.83	4.57	85.0	SG-1/B-1, GS	148.0	740.74	0.0
	16 SG-1/B-1, PVC	0.33	1.07	1.81	85.0	SG-1/B-1, PVC	148.0	743.50	0.0
	17 NE cnr/bldg	0.47	1.18	1.89	124.0	NE cnr/bldg	142.0	743.39	0.0
	18 W side/E door	0.72	1.23	1.74	137.0	W side/E door	102.0	743.34	0.0
	19 W side/W door	4.72	5.06	5.40	172.0	W side/W door	68.0	739.51	0.0
	20 water line cap	8.39	8.81	9.23	311.0	water line cap	84.0	735.76	0.0
	21 road intersection	2.60	3.70	4.80	84.0	road intersection	220.0	740.87	0.0
	22 SW cnr/bay	3.94	4.41	4.88	171.0	SW cnr/bay	94.0	740.16	0.0

Note: * = calculated value.

APPENDIX F
Slug Test Theory and Data

Slug Test Theory

The Bouwer and Rice slug test (Bouwer, 1989; Bouwer and Rice, 1979) is designed for partially- or fully-penetrating wells in homogeneous, isotropic, unconfined aquifers, and the water table may be above or below the top of the screened section of the well. The test assumes radial flow to the well, such that the drawdown in the vicinity of the well is negligible. It also assumes that the volume of water is removed instantaneously. However, acceptable data can be collected if pumping or bailing is done quickly compared to the length of the test.

Only one time - water level pair is need to calculate hydraulic conductivity using this test. However, it is desirable to determine several pairs to evaluate the legitimate portion of the data and to minimize measurement variability and error by best fitting the data to a curve predicted by theory. Water level data were collected for an appropriate period of time to ensure that rapid drainage from the filter pack was no longer affecting the data, and to determine, if applicable, the time after which the radial flow assumption became invalid. Hydraulic conductivity is calculated as

$$K = \frac{r_c^2 \ln (R_e/r_w)}{2Lt} \ln \frac{y_0}{y_t}$$

where

- K = hydraulic conductivity L^3T^{-1}
- r_c = well casing radius L
- R_e = effective well radius over which head loss is dissipated L
- r_w = radial distance to undisturbed portion of aquifer from center line of well L
- L = screened interval in saturated zone L
- t = time T
- y_0 = head drop in well at $t = 0$ L
- y_t = head drop in well at $t = t$ L .

The well casing radius needs to be adjusted if the water level rises in the screened interval, as was the case for these tests, to account for the porosity of the filter pack:

$$r_a = [r_c^2 + n (r_w^2 - r_c^2)]^{1/2}$$

where r_a is the adjusted radius and n is the porosity of the filter pack.

The term $\ln (R_e/r_w)$ is determined by using curves that relate dimensionless coefficients (A , B and C) to L/r_w (Bouwer and Rice, 1979). The term $\ln (R_e/r_w)$ is obtained from

$$\ln (R_e/r_w) = \left[\frac{1.1}{\ln(H/r_w)} + \frac{A + B \ln[(D - H)/r_w]}{L/r_w} \right]^{-1}$$

for a partially-penetrating well, and

$$\ln (R_e/r_w) = \left[\frac{1.1}{\ln(H/r_w)} + \frac{C}{L/r_w} \right]^{-1}$$

for a fully-penetrating well, where

- H = distance from static water table to bottom of screen L
- D = static saturated thickness L .

Slug test data were analyzed using AQTESOLV™ software (Duffield and Rumbaugh, 1991). Required input parameters are y_0 , r_a , r_w , L , H and D (summarized in the table below), and the time - water level data. The value for y_0 was determined by extrapolating water-level data to $t = 0$. For

$$\begin{aligned} r_c &= 0.0833 \text{ feet} \\ n &= 0.40 \\ r_w &= 0.323 \text{ feet,} \end{aligned}$$

corresponding to a two-inch inside-diameter well casing installed in a boring advanced with a 7.75-inch outside-diameter auger, the adjusted well radius is 0.214 feet (2.57 inches). A porosity of 0.40 is typical for sand (Freeze and Cherry, 1979), and has also been estimated by SHEVENELL-GALLEN and Associates, Inc., in a previous laboratory experiment. The saturated thickness (D) was calculated by subtracting the static water depth from an estimated depth-to-bedrock value of 200 feet determined from local well-driller's logs. Hydraulic conductivity is not sensitive to errors in choosing this value if the bottom of screened portion of the well is far (greater than a few feet) from the bedrock (or confining) surface (Peckenham *et al.*, 1993).

TABLE E-1. Parameters Used for Slug Test Analysis

Parameter	SG-2	SG-4
y_0	0.37	0.24
r_a	0.214	0.214
r_w	0.323	0.323
L	5.61	9.00
H	5.61	9.00
D	144.61	171.00

Note: all values given in feet.

REFERENCES CITED

- Bouwer, H., 1989. The Bower and Rice slug test - an update, *Groundwater*, 27:304-309.
- Bouwer, H. and R. Rice, 1976. A slug test for determining hydraulic conductivity of unconfined aquifers with completely or partially penetrating wells, *Water Resources Research*, 12:423-428.
- Freeze, R. A. and J. A. Cherry, 1979. *Groundwater*, Prentice-Hall, Inc., Englewood Cliffs, New Jersey, p. 29.
- Duffield, G.M. and J.O. Rumbaugh, III, 1991. AQTESOLV™ Aquifer Test Solver, Version 1.1 R4, Geraghty & Miller, Inc.
- Peckenham, J.M., S.J. Stresky, and T.C. Shevenell, 1993. Conductivity determination in fine-grained soils and the effect on groundwater remediation, in *Proceedings of Lessons Learned in the Remediation of Petroleum-Contaminated Sites in Maine* (in preparation), Maine Department of Environmental Protection.

Coca Cola Property, East Montpelier, VT
Monitoring Well SG-2

SWL: 55.58			
Time (min.)	y	Depth (corrected)	Depth (w/ TLC)
0.25	0.26	55.84	55.84
0.50	0.24	55.82	55.82
0.75	0.17	55.75	55.75
1.00	0.13	55.71	55.71
2.00	0.09	55.67	55.67
3.00	0.07	55.65	55.65
4.00	0.05	55.63	55.63
5.00	0.04	55.62	55.62
6.00	0.04	55.62	55.62
7.00	0.04	55.62	55.62
8.00	0.03	55.61	55.61
9.00	0.03	55.61	55.61
10.00	0.03	55.61	55.61
15.00	0.02	55.60	55.60
20.00	0.02	55.60	55.60
25.00	0.01	55.59	55.59

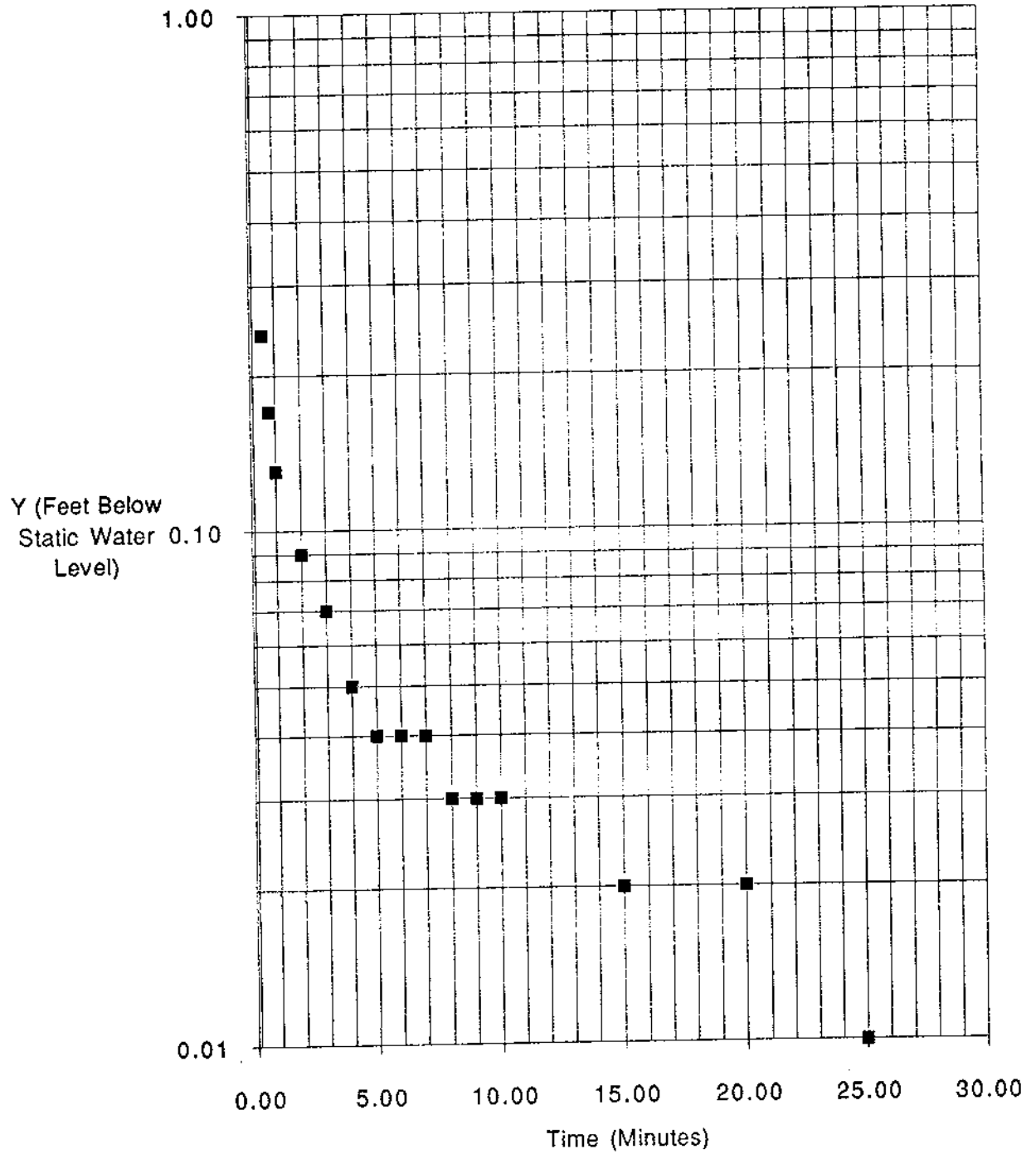
5/18/93

Monitoring Well SG-4

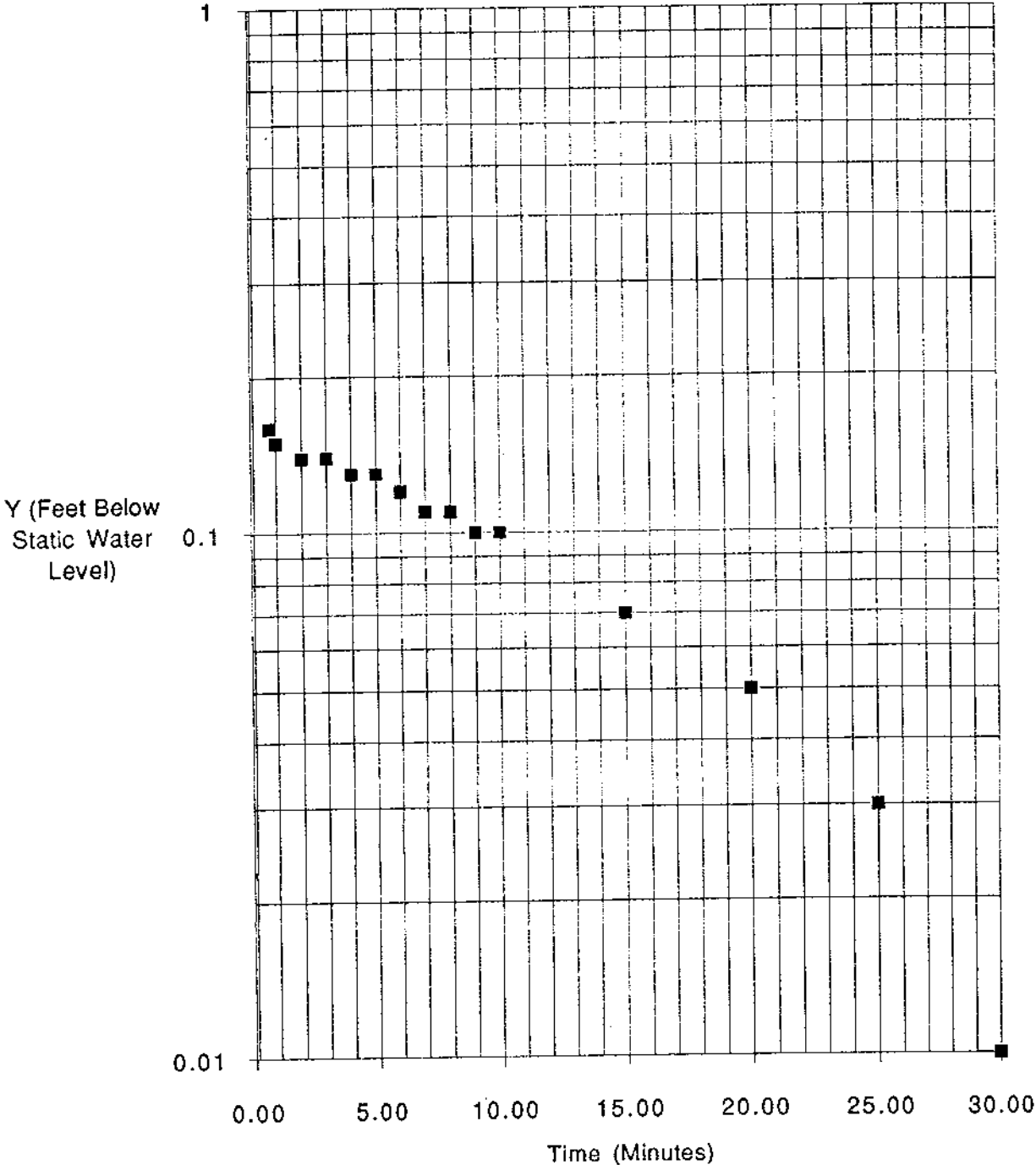
SWL: 32.08			
Time (min.)	y	Depth (corrected)	Depth (w/ TLC)
0.25	0.24	32.32	32.32
0.50	0.20	32.28	32.28
0.75	0.16	32.24	32.24
1.00	0.15	32.23	32.23
2.00	0.14	32.22	32.22
3.00	0.14	32.22	32.22
4.00	0.13	32.21	32.21
5.00	0.13	32.21	32.21
6.00	0.12	32.20	32.20
7.00	0.11	32.19	32.19
8.00	0.11	32.19	32.19
9.00	0.10	32.18	32.18
10.00	0.10	32.18	32.18
15.00	0.07	32.15	32.15
20.00	0.05	32.13	32.13
25.00	0.03	32.11	32.11
30.00	0.01	32.09	32.09

- Notes: 1. SWL = static water level.
2. y = head drop (feet below static water level).

Slug Test Well SG-2



Slug Test Well SG-4



APPENDIX G
Analytical Results

May 17, 1993

Mr. Mark J. Fisher
Shevenell Gallen and Associates, Inc. (T)
44 Exchange Street, Suite 200
Portland, ME 04101

Re: Coca-Cola / East Montpelier

C-8271-02.03

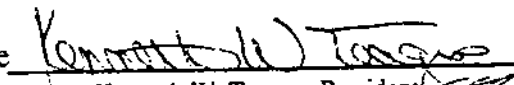
Enclosed are the results of the analyses on your sample(s). Please see individual reports for specific methodologies and references.

If you have any further questions on the analytical methods or these results, do not hesitate to call.

<u>Lab Number</u>	<u>Sample Date</u>	<u>Station Location</u>	<u>Analysis</u>	<u>Remarks</u>
31081-01	4/30/93	SG-1	EPA 602	
31081-02	4/30/93	SG-1	Mod. EPA 8100	
31081-03	4/30/93	SG-2	EPA 602	
31081-04	4/30/93	SG-2	Mod. EPA 8100	
31081-05	4/30/93	SG-3	EPA 602	
31081-06	4/30/93	SG-3	Mod. EPA 8100	
31081-07	4/30/93	SG-4	EPA 602	
31081-08	4/30/93	SG-4	Mod. EPA 8100	
31081-09	4/30/93	Field Blank		Hold
31081-10	4/30/93	Trip Blank		Hold

Analytics Environmental Laboratory is certified by the states of New Hampshire, Maine, Massachusetts and Florida. A list of actual certified tests is available upon request.

Authorized signature


Kenneth W. Teague, President



environmental
laboratory inc.

195 Commerce Way
Portsmouth, New Hampshire 03801
603-436-5111

May 17, 1993

Mr. Mark J. Fisher
Shevenell Gallen and Associates, Inc. (T)
44 Exchange Street, Suite 200
Portland, ME 04101

CLIENT SAMPLE ID
Client Project: Coca-Cola / East Montpelier

Project Number: C-8271-02.03
Station ID: SG-1

SAMPLE DATA

Lab #: 31081-01
Matrix: Water
Percent Solid: N/A
Dilution Factor: 1.00
Collection Date: 4/30/93
Lab Receipt Date: 5/3/93
Analysis Date: 5/3/93

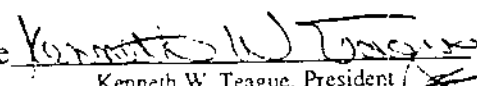
ANALYTICAL RESULTS PURGEABLE AROMATICS

COMPOUND	Detection Limit: µg/L	Result: µg/L
Benzene	5	ND
Toluene	5	ND
Ethylbenzene	5	ND
o-Xylene	5	ND
m&p-Xylene	5	ND
Methyl t-butyl ether	5	ND
<u>Surrogate Standard Recovery</u>		
d4-1,2-Dichloroethane	95 %	
d8-Toluene	99 %	
Bromofluorobenzene	94 %	
ND=None Detected <=Less than >=Greater than PR=Present but not calibrated for		

METHODOLOGY: Water sample analysis was conducted according to "40 CFR Part 136, Modified EPA Method 624" and other matrices were analyzed according to "Test Methods for Evaluating Solid Waste, Modified SW-846 Method 8240."

COMMENTS:

Authorized signature


Kenneth W. Teague, President



environmental
laboratory inc.

195 Commerce Way
Portsmouth, New Hampshire 03801
603-436-5111

Mr. Mark J. Fisher
Shevenell Gallen and Associates, Inc. (T)
44 Exchange Street, Suite 200
Portland, ME 04101

May 17, 1993

CLIENT SAMPLE ID
Client Project: Coca-Cola / East Montpelier

Project Number: C-8271-02.03
Station ID: SG-2

SAMPLE DATA

Lab #: 31081-03
Matrix: Water
Percent Solid: N/A
Dilution Factor: 1.00
Collection Date: 4/30/93
Lab Receipt Date: 5/3/93
Analysis Date: 5/3/93

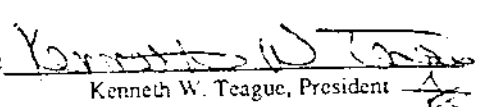
ANALYTICAL RESULTS PURGEABLE AROMATICS

COMPOUND	Detection Limit: µg/L	Result: µg/L
Benzene	5	ND
Toluene	5	ND
Ethylbenzene	5	ND
o-Xylene	5	ND
m&p-Xylene	5	ND
Methyl t-butyl ether	5	ND
<u>Surrogate Standard Recovery</u>		
d4-1,2-Dichloroethane	102 %	
d8-Toluene	101 %	
Bromofluorobenzene	97 %	
ND=None Detected <=Less than >=Greater than PR=Present but not calibrated for		

METHODOLOGY: Water sample analysis was conducted according to "40 CFR Part 136, Modified EPA Method 624" and other matrices were analyzed according to "Test Methods for Evaluating Solid Waste, Modified SW-846 Method 8240."

COMMENTS:

Authorized signature


Kenneth W. Teague, President



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195 Commerce Way
Portsmouth, New Hampshire 03801
603-436-5111

Mr. Mark J. Fisher
Shevenell Gallen and Associates, Inc. (T)
44 Exchange Street, Suite 200
Portland, ME 04101

May 17, 1993

CLIENT SAMPLE ID
Client Project: Coca-Cola / East Montpelier

Project Number: C-8271-02.03
Station ID: SG-3

SAMPLE DATA

Lab #: 31081-05
Matrix: Water
Percent Solid: N/A
Dilution Factor: 1.00
Collection Date: 4/30/93
Lab Receipt Date: 5/3/93
Analysis Date: 5/3/93


ANALYTICAL RESULTS PURGEABLE AROMATICS

COMPOUND	Detection Limit: µg/L	Result: µg/L
Benzene	5	ND
Toluene	5	< 5
Ethylbenzene	5	ND
o-Xylene	5	ND
m&p-Xylene	5	ND
Methyl t-butyl ether	5	ND
<u>Surrogate Standard Recovery</u>		
d4-1,2-Dichloroethane	105 %	
d8-Toluene	98 %	
Bromofluorobenzene	99 %	
ND=None Detected <=Less than >=Greater than PR=Present but not calibrated for		

METHODOLOGY: Water sample analysis was conducted according to "40 CFR Part 136, Modified EPA Method 624" and other matrices were analyzed according to "Test Methods for Evaluating Solid Waste, Modified SW-846 Method 8240."

COMMENTS:

Authorized signature


Kenneth W. Teague, President

May 17, 1993

Mr. Mark J. Fisher
Shevenell Gallen and Associates, Inc. (T)
44 Exchange Street, Suite 200
Portland, ME 04101

CLIENT SAMPLE ID
Client Project: Coca-Cola / East Montpelier

Project Number: C-8271-02.03
Station ID: SG-4

SAMPLE DATA
Lab #: 31081-07
Matrix: Water
Percent Solid: N/A
Dilution Factor: 1.00
Collection Date: 4/30/93
Lab Receipt Date: 5/3/93
Analysis Date: 5/3/93

ANALYTICAL RESULTS PURGEABLE AROMATICS

COMPOUND	Detection Limit: µg/L	Result: µg/L
Benzene	5	ND
Toluene	5	< 5
Ethylbenzene	5	ND
o-Xylene	5	ND
m&p-Xylene	5	ND
Methyl t-butyl ether	5	ND
<u>Surrogate Standard Recovery</u>		
	d4-1,2-Dichloroethane	107 %
	d8-Toluene	101 %
	Bromofluorobenzene	97 %
ND=None Detected <=Less than >=Greater than PR=Present but not calibrated for		

METHODOLOGY: Water sample analysis was conducted according to "40 CFR Part 136, Modified EPA Method 624" and other matrices were analyzed according to "Test Methods for Evaluating Solid Waste, Modified SW-846 Method 8240."

COMMENTS:

Authorized signature

Kenneth W. Teague
Kenneth W. Teague, President



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195 Commerce Way
Portsmouth, New Hampshire 03801
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Mr. Mark J. Fisher
Shevenell Gallen and Associates, Inc. (T)
44 Exchange Street, Suite 200
Portland, ME 04101

May 17, 1993

Client Project: Coca-Cola / East Montpelier

Project Number: C-8271-02.03

Station ID: SG-1

Lab #: 31081-02
Matrix: Water
Percent Solid: N/A
Dilution Factor: 1.03
Collection Date: 4/30/93
Lab Receipt Date: 5/3/93
Extraction Date: 5/7/93
Analysis Date: 5/12/93

TOTAL PETROLEUM HYDROCARBON ANALYSIS

Sample	Result	Units	Detection Limit
31081-02	ND	µg/L	52


ND denotes none detected.

Surrogate Standard Recovery

m-Terphenyl 85 %

Methodology: Water samples prepared by Separatory Funnel Liquid/Liquid Extraction, "Test Methods for Evaluating Solid Waste," Method 3510; other matrices prepared by Soxhlet Extraction, "Test Methods for Evaluating Solid Waste," Method 3540. All matrices were analyzed according to "Test Methods for Evaluating Solid Waste, Modified SW-846 Method 8100."

Comments:

Authorized signature 
Kenneth W. Teague, President

May 17, 1993

Mr. Mark J. Fisher
Shevenell Gallen and Associates, Inc. (T)
44 Exchange Street, Suite 200
Portland, ME 04101

Client Project: Coca-Cola / East Montpelier

Project Number: C-8271-02.03

Station ID: SG-2

Lab #: 31081-04
Matrix: Water
Percent Solid: N/A
Dilution Factor: 1.08
Collection Date: 4/30/93
Lab Receipt Date: 5/3/93
Extraction Date: 5/7/93
Analysis Date: 5/12/93

TOTAL PETROLEUM HYDROCARBON ANALYSIS

Sample	Result	Units	Detection Limit
31081-04	ND	µg/L	54

ND denotes none detected.

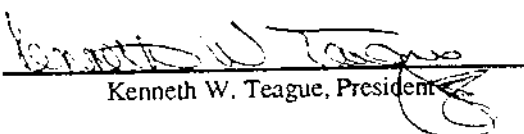
Surrogate Standard Recovery

m-Terphenyl 76 %

Methodology: Water samples prepared by Separatory Funnel Liquid/Liquid Extraction, "Test Methods for Evaluating Solid Waste," Method 3510; other matrices prepared by Soxhlet Extraction, "Test Methods for Evaluating Solid Waste," Method 3540. All matrices were analyzed according to "Test Methods for Evaluating Solid Waste, Modified SW-846 Method 8100."

Comments:

Authorized signature


Kenneth W. Teague, President



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Portsmouth, New Hampshire 03801
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Mr. Mark J. Fisher
Shevenell Gallen and Associates, Inc. (T)
44 Exchange Street, Suite 200
Portland, ME 04101

May 17, 1993

Client Project: Coca-Cola / East Montpelier

Project Number: C-8271-02.03

Station ID: SG-3

Lab #: 31081-06
Matrix: Water
Percent Solid: N/A
Dilution Factor: 1.04
Collection Date: 4/30/93
Lab Receipt Date: 5/3/93
Extraction Date: 5/7/93
Analysis Date: 5/12/93

TOTAL PETROLEUM HYDROCARBON ANALYSIS

Sample	Result	Units	Detection Limit
31081-06	132	µg/L	52

Surrogate Standard Recovery

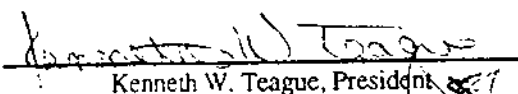
m-Terphenyl 70 %

Methodology: Water samples prepared by Separatory Funnel Liquid/Liquid Extraction, "Test Methods for Evaluating Solid Waste," Method 3510; other matrices prepared by Soxhlet Extraction, "Test Methods for Evaluating Solid Waste," Method 3540. All matrices were analyzed according to "Test Methods for Evaluating Solid Waste, Modified SW-846 Method 8100."

Comments: Quantitation performed based on a No. 2 Fuel Oil standard.

Revised 5/19/93.

Authorized signature


Kenneth W. Teague, President



environmental
laboratory inc.

195 Commerce Way
Portsmouth, New Hampshire 03801
603-436-5111

Mr. Mark J. Fisher
Shevenell Gallen and Associates, Inc. (T)
44 Exchange Street, Suite 200
Portland, ME 04101

May 17, 1993

Client Project: Coca-Cola / East Montpelier

Project Number: C-8271-02.03

Station ID: SG-4

Lab #: 31081-08
Matrix: Water
Percent Solid: N/A
Dilution Factor: 1.04
Collection Date: 4/30/93
Lab Receipt Date: 5/3/93
Extraction Date: 5/7/93
Analysis Date: 5/12/93

TOTAL PETROLEUM HYDROCARBON ANALYSIS

Sample	Result	Units	Detection Limit
31081-08	107	µg/L	52

Surrogate Standard Recovery

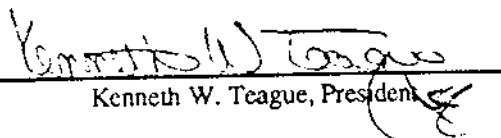
m-Terphenyl 70 %

Methodology: Water samples prepared by Separatory Funnel Liquid/Liquid Extraction, "Test Methods for Evaluating Solid Waste," Method 3510; other matrices prepared by Soxhlet Extraction, "Test Methods for Evaluating Solid Waste," Method 3540. All matrices were analyzed according to "Test Methods for Evaluating Solid Waste, Modified SW-846 Method 8100."

Comments: Quantitation performed based on a No. 2 Fuel Oil standard.

Revised 5/19/93.

Authorized signature


Kenneth W. Teague, President

AN. ICS ENVIRONMENTAL LABORATORY, INC.

195 Commerce Way

Portsmouth, New Hampshire 03801

Phone: (603) 436-5111 Fax: (603) 436-0154

Proj #: C-8271-0203 Proj Name: COCA-COLA / EAST MONTPELIER

Company: SHENBELL-GALLER & ASSOC., INC.

Contact: MARK J FISHER

Address:

Phone: 207-761-4060 Fax: 207-761-1513

P.O. #:

 Sampler(Signature): *[Signature]*
CODES:

Matrix Key:

 W= Water
S= Soil/Sludge
O= Oil
E= Extract
X= Other

Preservation:

 1= Ice
2= H2SO4
3= HNO3
4= HCl
5= Other

For Analytics use only:

Samples were:

 1) Shipped or Hand delivered

 2) Ambient or Chilled

3) Received in good condition:

Y or N

4) Properly preserved:

Y or N

5) Received within hold time:

Y or N

Station Location	Date	Time	Analysis (one per line)	Matrix	Container	Preservation	Analytics Sample #'s
SG-1	4/30/93	10:35	m. 602	W	40ml	HCL	31081-01
SG-1		"	m. 8100		1 L	ICE	-02
SG-2		10:35	m. 602		40ml	HCL	-03
SG-2		"	m. 8100		1 L	ICE	-04
SG-3		11:15	m. 602		40ml	HCL	-05
SG-3		"	m. 8100		1 L	ICE	-06
SG-4		11:35	m. 602		40ml	HCL	-07
SG-4		"	m. 8100		1 L	ICE	-08
Field Blank [Ⓢ]	4/30/93	11:45	hold (per MF)	W	1-40ml	1/4	-09
Tap Blank [Ⓢ]	4/30/93		hold (per MF)	W	1-40ml	1/4	-10

Comments/Instructions:

 5/17/93 Per M. Fisher, pls quantitate SG-3 based on No. 2 FD Std. [Ⓢ]
 5/19/93 Per M. Fisher, quantitate SG-4 on No. 2 FD Std. & reissue results [Ⓢ]

Page 1 of 1

TURNAROUND REQUEST

Standard Priority (Surcharge)

✓
Revisions:

Date Initial

Date Initial

Date Initial

Received by:

Time:

Date: 4/30/93

 Relinquished by: *[Signature]*

ALPHA ANALYTICAL LABORATORIES

Eight Walkup Drive
Westborough, Massachusetts 01581-1019
(508) 898-9220

MA 086 NH 198958-A CT PH-0574 NY 11148 NC 320 SC 88006 RI A65

CERTIFICATE OF ANALYSIS

Client: Shevenelle-Gallen & Assoc.

Laboratory Job Number: L9303563

Address: 195 Commerce Way

Invoice Number: 52301

Portsmouth, NH 03801

Date Received: 03-MAY-93

Attn: Mark J. Fisher

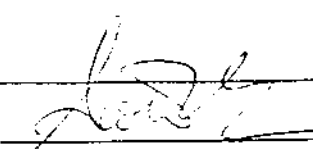
Date Reported: 17-MAY-93

Project Number: C-8271-02-03

Delivery Method: Alpha

Site: Coca-Cola

ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L9303563-01	S6-1	East Montpelier
L9303563-02	S6-2	East Montpelier
L9303563-03	S6-3	East Montpelier
L9303563-04	S6-4	East Montpelier

Authorized by: 

Scott McLean - Laboratory Director

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA 086 NH 198958-A CT PH-0574 NY 11148 NC 320 SC 88006 RI A65

Laboratory Sample Number: L9303563-01

Date Received: 03-MAY-93

S6-1

Sample Matrix: WATER

Date Reported: 17-MAY-93

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 2 Amber Glass

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATES PREP ANALYSIS
Hydrocarbons, Total	ND	mg/l	0.50	1 418.1	10-May 11-May

Comments: * Complete list of References found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA 086 NH 198958-A CT PH-0574 NY 11148 NC 320 SC 88006 RI A65

Laboratory Sample Number: L9303563-02

Date Received: 03-MAY-93

S6-2

Sample Matrix: WATER

Date Reported: 17-MAY-93

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 2 Amber Glass

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATES PREP ANALYSIS
Hydrocarbons, Total	ND	mg/l	0.50	1 418.1	10-May 11-May

Comments: * Complete list of References found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA 086 NH 198958-A CT PH-0574 NY 11148 NC 320 SC 88006 RI A65

Laboratory Sample Number: L9303563-03
S6-3

Date Received: 03-MAY-93

Sample Matrix: WATER

Date Reported: 17-MAY-93

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 2 Amber Glass

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATES PREP ANALYSIS
Hydrocarbons, Total	ND	mg/l	0.50	1 418.1	10-May 11-May

Comments: * Complete list of References found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA 086 NH 198958-A CT PH-0574 NY 11148 NC 320 SC 88006 RI A65

Laboratory Sample Number: L9303563-04
S6-4

Date Received: 03-MAY-93

Sample Matrix: WATER

Date Reported: 17-MAY-93

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 2 Amber Glass

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATES PREP ANALYSIS
Hydrocarbons, Total	ND	mg/l	0.50	1 418.1	10-May 11-May

Comments: * Complete list of References found in Addendum I

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE DUPLICATE ANALYSIS

Laboratory Job Number: L9303563

Parameter	Value 1	Value 2	RPD	Units
Hydrocarbons, Total	DUPLICATE for sample(s) 01-04			
	3.2	3.2	0	mg/l

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE SPIKE ANALYSES

Laboratory Job Number: L9303563

Parameter	% Recovery
Hydrocarbons, Total	SPIKE for sample(s) 01-04
	95

ALPHA ANALYTICAL LABS
ADDENDUM I
REFERENCES

1. Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. 1986.

Sheet _____ of _____

Date Due:

Alpha Job Number: (Lab use only)

6.



environmental
laboratory inc.

195 Commerce Way
Portsmouth, New Hampshire 03801
603-436-5111

May 27, 1993

Mr. Mark J. Fisher
Shevenell Gallen and Associates, Inc. (T)
44 Exchange Street, Suite 200
Portland, ME 04101

Re: Coca Cola/East Montpelier

C-8271-02:03

Enclosed are the results of the analyses on your sample(s). Please see individual reports for specific methodologies and references.

If you have any further questions on the analytical methods or these results, do not hesitate to call.

<u>Lab Number</u>	<u>Sample Date</u>	<u>Station Location</u>	<u>Analysis</u>	<u>Remarks</u>
31167-01	5/17/93	SG-1	EPA 602	
31167-02	5/17/93	SG-1	Mod. EPA 8100	
31167-03	5/17/93	SG-2	EPA 602	
31167-04	5/17/93	SG-2	Mod. EPA 8100	
31167-05	5/17/93	SG-3	EPA 602	
31167-06	5/17/93	SG-3	Mod. EPA 8100	
31167-07	5/17/93	SG-4	EPA 602	
31167-08	5/17/93	SG-4	Mod. EPA 8100	
31167-09	5/17/93	Field Blank		Hold
31167-10	5/17/93	SG-1 Dup		Hold
31167-11	5/17/93	Trip Blank		Hold

Analytics Environmental Laboratory is certified by the states of New Hampshire, Maine, Massachusetts and Florida. A list of actual certified tests is available upon request.

Authorized signature


Kenneth W. Teague, President



environmental
laboratory inc.

195 Commerce Way
Portsmouth, New Hampshire 03801
603-436-5111

Mr. Mark J. Fisher
Shevenell Gallen and Associates, Inc. (T)
44 Exchange Street, Suite 200
Portland, ME 04101

May 27, 1993

Client Project: Coca Cola/East Montpelier

Project Number: C-8271-02:03

Station ID: SG-1

Lab #: 31167-02
Matrix: Water
Percent Solid: N/A
Dilution Factor: 1.02
Collection Date: 5/17/93
Lab Receipt Date: 5/19/93
Extraction Date: 5/24/93
Analysis Date: 5/26/93

TOTAL PETROLEUM HYDROCARBON ANALYSIS

Sample	Result	Units	Detection Limit
31167-02	ND	µg/L	50

ND denotes none detected.

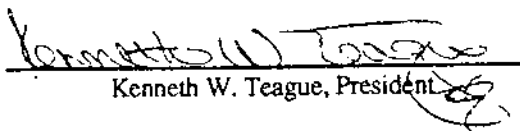
Surrogate Standard Recovery

m-Terphenyl 83 %

Methodology: Water samples prepared by Separatory Funnel Liquid/Liquid Extraction, "Test Methods for Evaluating Solid Waste," Method 3510; other matrices prepared by Soxhlet Extraction, "Test Methods for Evaluating Solid Waste," Method 3540. All matrices were analyzed according to "Test Methods for Evaluating Solid Waste, Modified SW-846 Method 8100."

Comments:

Authorized signature


Kenneth W. Teague, President



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195 Commerce Way
Portsmouth, New Hampshire 03801
603-436-5111

May 27, 1993

Mr. Mark J. Fisher
Shevenell Gallen and Associates, Inc. (T)
44 Exchange Street, Suite 200
Portland, ME 04101

Client Project: Coca Cola/East Montpelier

Project Number: C-8271-02:03
Station ID: SG-2

Lab #: 31167-04
Matrix: Water
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date: 5/17/93
Lab Receipt Date: 5/19/93
Extraction Date: 5/24/93
Analysis Date: 5/26/93

TOTAL PETROLEUM HYDROCARBON ANALYSIS

Sample	Result	Units	Detection Limit
31167-04	ND	µg/L	50

ND denotes none detected.

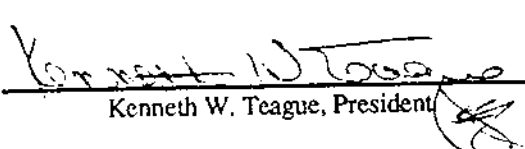
Surrogate Standard Recovery

m-Terphenyl 98 %

Methodology: Water samples prepared by Separatory Funnel Liquid/Liquid Extraction, "Test Methods for Evaluating Solid Waste," Method 3510; other matrices prepared by Soxhlet Extraction, "Test Methods for Evaluating Solid Waste," Method 3540. All matrices were analyzed according to "Test Methods for Evaluating Solid Waste, Modified SW-846 Method 8100."

Comments:

Authorized signature


Kenneth W. Teague, President



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laboratory inc.

195 Commerce Way
Portsmouth, New Hampshire 03801
603-436-5111

May 27, 1993

Mr. Mark J. Fisher
Shevenell Gallen and Associates, Inc. (T)
44 Exchange Street, Suite 200
Portland, ME 04101

Client Project: Coca Cola/East Montpelier

Project Number: C-8271-02:03
Station ID: SG-3

Lab #: 31167-06
Matrix: Water
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date: 5/17/93
Lab Receipt Date: 5/19/93
Extraction Date: 5/24/93
Analysis Date: 5/26/93

TOTAL PETROLEUM HYDROCARBON ANALYSIS

Sample	Result	Units	Detection Limit
31167-06	ND	µg/L	50

ND denotes none detected.

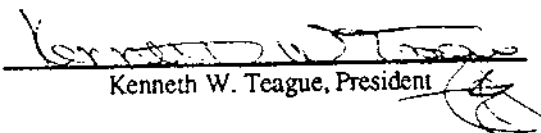
Surrogate Standard Recovery

m-Terphenyl 75 %

Methodology: Water samples prepared by Separatory Funnel Liquid/Liquid Extraction, "Test Methods for Evaluating Solid Waste," Method 3510; other matrices prepared by Soxhlet Extraction, "Test Methods for Evaluating Solid Waste," Method 3540. All matrices were analyzed according to "Test Methods for Evaluating Solid Waste, Modified SW-846 Method 8100."

Comments:

Authorized signature


Kenneth W. Teague, President



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195 Commerce Way
Portsmouth, New Hampshire 03801
603-436-5111

Mr. Mark J. Fisher
Shevenell Gallen and Associates, Inc. (T)
44 Exchange Street, Suite 200
Portland, ME 04101

May 27, 1993

Client Project: Coca Cola/East Montpelier

Project Number: C-8271-02:03

Station ID: SG-4

Lab #: 31167-08
Matrix: Water
Percent Solid: N/A
Dilution Factor: 1.03
Collection Date: 5/17/93
Lab Receipt Date: 5/19/93
Extraction Date: 5/24/93
Analysis Date: 5/27/93

TOTAL PETROLEUM HYDROCARBON ANALYSIS

Sample	Result	Units	Detection Limit
31167-08	ND	µg/L	50

ND denotes none detected.


Surrogate Standard Recovery

m-Terphenyl 76 %

Methodology: Water samples prepared by Separatory Funnel Liquid/Liquid Extraction, "Test Methods for Evaluating Solid Waste," Method 3510; other matrices prepared by Soxhlet Extraction, "Test Methods for Evaluating Solid Waste," Method 3540. All matrices were analyzed according to "Test Methods for Evaluating Solid Waste, Modified SW-846 Method 8100."

Comments:

Authorized signature


Kenneth W. Teague, President



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195 Commerce Way
Portsmouth, New Hampshire 03801
603-436-5111

May 27, 1993

Mr. Mark J. Fisher
Shevenell Gallen and Associates, Inc. (T)
44 Exchange Street, Suite 200
Portland, ME 04101

CLIENT SAMPLE ID

Client Project: Coca Cola/East Montpelier

Project Number: C-8271-02:03
Station ID: SG-1

SAMPLE DATA

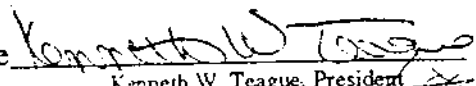
Lab #: 31167-01
Matrix: Water
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date: 5/17/93
Lab Receipt Date: 5/19/93
Analysis Date: 5/19/93

ANALYTICAL RESULTS PURGEABLE AROMATICS

COMPOUND	Detection Limit: µg/L	Result: µg/L
Benzene	5	ND
Toluene	5	ND
Ethylbenzene	5	ND
m-Xylene	5	ND
o&p-Xylene	5	ND
Methyl t-butyl ether	5	ND
<u>Surrogate Standard Recovery</u>		
d4-1,2-Dichloroethane	109%	
d8-Toluene	100%	
Bromofluorobenzene	115%	
ND=None Detected <=Less than >=Greater than PR=Present but not calibrated for		

METHODOLOGY: Water sample analysis was conducted according to "40 CFR Part 136, Modified EPA Method 624" and other matrices were analyzed according to "Test Methods for Evaluating Solid Waste, Modified SW-846 Method 8240."

COMMENTS:

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Kenneth W. Teague, President



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195 Commerce Way
Portsmouth, New Hampshire 03801
603-436-5111

Mr. Mark J. Fisher
Shevenell Gallen and Associates, Inc. (T)
44 Exchange Street, Suite 200
Portland, ME 04101

May 27, 1993

CLIENT SAMPLE ID
Client Project: Coca Cola/East Montpelier
Project Number: C-8271-02:03
Station ID: SG-2

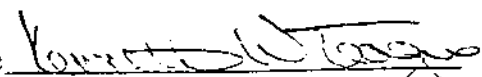
SAMPLE DATA
Lab #: 31167-03
Matrix: Water
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date: 5/17/93
Lab Receipt Date: 5/19/93
Analysis Date: 5/20/93

ANALYTICAL RESULTS PURGEABLE AROMATICS

COMPOUND	Detection Limit: µg/L	Result: µg/L
Benzene	5	ND
Toluene	5	ND
Ethylbenzene	5	ND
o-Xylene	5	ND
m&p-Xylene	5	ND
Methyl t-butyl ether	5	ND
<u>Surrogate Standard Recovery</u>		
d4-1,2-Dichloroethane	97 %	
d8-Toluene	100 %	
Bromofluorobenzene	100 %	
ND=None Detected <=Less than >=Greater than PR=Present but not calibrated for		

METHODOLOGY: Water sample analysis was conducted according to "40 CFR Part 136, Modified EPA Method 624" and other matrices were analyzed according to "Test Methods for Evaluating Solid Waste, Modified SW-846 Method 8240."

COMMENTS:

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Kenneth W. Teague, President



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Portsmouth, New Hampshire 03801
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Mr. Mark J. Fisher
Shevenell Gallen and Associates, Inc. (T)
44 Exchange Street, Suite 200
Portland, ME 04101

May 27, 1993

CLIENT SAMPLE ID

Client Project: Coca Cola/East Montpelier

Project Number: C-8271-02:03
Station ID: SG-3

SAMPLE DATA

Lab #: 31167-05
Matrix: Water
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date: 5/17/93
Lab Receipt Date: 5/19/93
Analysis Date: 5/20/93


ANALYTICAL RESULTS PURGEABLE AROMATICS

COMPOUND	Detection Limit: µg/L	Result: µg/L
Benzene	5	ND
Toluene	5	ND
Ethylbenzene	5	ND
o-Xylene	5	ND
m&p-Xylene	5	ND
Methyl t-butyl ether	5	ND
<u>Surrogate Standard Recovery</u>		
d4-1,2-Dichloroethane	107 %	
d8-Toluene	96 %	
Bromofluorobenzene	99 %	
ND=None Detected <=Less than >=Greater than PR=Present but not calibrated for		

METHODOLOGY: Water sample analysis was conducted according to "40 CFR Part 136, Modified EPA Method 624" and other matrices were analyzed according to "Test Methods for Evaluating Solid Waste, Modified SW-846 Method 8240."

COMMENTS:

Authorized signature


Kenneth W. Teague, President



environmental
laboratory inc.

195 Commerce Way
Portsmouth, New Hampshire 03801
603-436-5111

May 27, 1993

Mr. Mark J. Fisher
Shevenell Gallen and Associates, Inc. (T)
44 Exchange Street, Suite 200
Portland, ME 04101

CLIENT SAMPLE ID

Client Project: Coca Cola/East Montpelier

Project Number: C-8271-02:03
Station ID: SG-4

SAMPLE DATA

Lab #: 31167-07
Matrix: Water
Percent Solid: N/A
Dilution Factor: 1.0
Collection Date: 5/17/93
Lab Receipt Date: 5/19/93
Analysis Date: 5/20/93

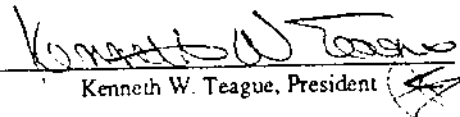
ANALYTICAL RESULTS PURGEABLE AROMATICS

COMPOUND	Detection Limit: µg/L	Result: µg/L
Benzene	5	ND
Toluene	5	ND
Ethylbenzene	5	ND
o-Xylene	5	ND
m&p-Xylene	5	ND
Methyl t-butyl ether	5	ND
<u>Surrogate Standard Recovery</u>		
d4-1,2-Dichloroethane	101 %	
d8-Toluene	98 %	
Bromofluorobenzene	97 %	
ND=None Detected <=Less than >=Greater than PR=Present but not calibrated for		

METHODOLOGY: Water sample analysis was conducted according to "40 CFR Part 136, Modified EPA Method 624" and other matrices were analyzed according to "Test Methods for Evaluating Solid Waste, Modified SW-846 Method 8240."

COMMENTS:

Authorized signature


Kenneth W. Teague, President

AN/ TCS ENVIRONMENTAL LABORATORY, INC.

195 Commerce Way

Portsmouth, New Hampshire 03801

Phone: (603) 436-5111 Fax: (603) 436-0154

Proj #: 8271-02-03 Proj Name: COCACOLA/EXT MONTELIEN

Company: SHEVEPELL - BALLEW & ASSOC. INC

Contact: MARK J. FISHER

Address: 44 EXCHANGE ST., PORTLAND, ME 04101

Phone: 207-861-4060 Fax: 207-761-1543

P.O. #:

Sampler(Signature):

CODES:

Matrix Key:

 W= Water
S= Soil/Sludge
O= Oil
E= Extract
X= Other

Preservation:

 1= Ice
2= H2SO4
3= HNO3
4= HCl
5= Other

For Analytics use only:

Samples were:

 1) Shipped or Hand-delivered

 2) Ambient or Chilled

3) Received in good condition:

☒ or N

4) Properly preserved:

☒ or N

5) Received within hold time:

☒ or N

Station Location	Date	Time	Analysis (one per line)	Matrix	Container	Preservation	Analytics Sample #'s
SG-1	5/17/93	3:20	m. 602 w/ MTGE	W	40ml	1,4	31167-01
SG-1		↓	m. 8100 (GASOLINE)		1L	1	-02
SG-2		3:40	m. 602 w/ MTGE		40ml	1,4	-03
SG-2		↓	m. 8100 (GASOLINE)		1L	1	-04
SG-3		4:00	m. 602 w/ MTGE		40ml	1,4	-05
SG-3		↓	m. 8100 (DIESEL)		1L	1	-06
SG-4		4:20	m. 602 w/ MTGE		40ml	1,4	-07
SG-4		↓	m. 8100 (DIESEL)		1L	1	-08
FIELD BLANK	5/17/93	3:05	HOLD	W	40ml	1,4	-09
QA/QC BLANK *	5/17/93	3:05	HOLD	W	1L	1	-10
Comments/Instructions: THAT BLANK	5/17/93	LAB	HOLD	W	40ml	1,4	-11

* QA/QC sample collected from SG-1. Sample is not a blank @ 5/19/93
Station location s/b "SG-1 Dup"

TURNAROUND REQUEST

Standard

Priority (Surcharge)

Revisions:

Date Initial

Date Initial

Date Initial

Received by:

Time: 7:05 pm

Date: 5/18/93

Relinquished by:

Received for lab. by:

5/19/93 845

Page 1 of 1

ALPHA ANALYTICAL LABORATORIES

Eight Walkup Drive
Westborough, Massachusetts 01581-1019
(508) 898-9220

MA 086 NH 198958-A CT PH-0574 NY 11148 NC 320 SC 88006 RI A65

CERTIFICATE OF ANALYSIS

Client: Shevenelle-Gallen & Assoc.

Laboratory Job Number: L9304105

Address: 195 Commerce Way

Invoice Number: 52879

Portsmouth, NH 03801

Date Received: 20-MAY-93

Attn: Mark J. Fisher

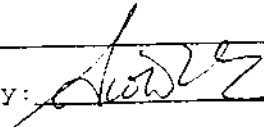
Date Reported: 03-JUN-93

Project Number: 8271-02-03

Delivery Method: Alpha

Site: Coca Cola

ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L9304105-01	S6-1	E. Montpelier
L9304105-02	S6-2	E. Montpelier
L9304105-03	S6-3	E. Montpelier
L9304105-04	QA-4	E. Montpelier

Authorized by: 

Scott McLean - Laboratory Director

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA 086 NH 198958-A CT PH-0574 NY 11148 NC 320 SC 88006 RI A65

Laboratory Sample Number: L9304105-01

Date Received: 20-MAY-93

S6-1

Sample Matrix: WATER

Date Reported: 03-JUN-93

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 2 Amber Glass

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATES PREP ANALYSIS
Hydrocarbons, Total	ND	mg/l	0.50	1 418.1	02-Jun 03-Jun

Comments: * Complete list of References found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA 086 NH 198958-A CT PH-0574 NY 11148 NC 320 SC 88006 RI A65

Laboratory Sample Number: L9304105-02

Date Received: 20-MAY-93

S6-2

Sample Matrix: WATER

Date Reported: 03-JUN-93

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 2 Amber Glass

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATES PREP ANALYSIS
Hydrocarbons, Total	ND	mg/l	0.50	1 418.1	02-Jun 03-Jun

Comments: * Complete list of References found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA 086 NH 198958-A CT PH-0574 NY 11148 NC 320 SC 88006 RI A65

Laboratory Sample Number: L9304105-03
S6-3

Date Received: 20-MAY-93

Sample Matrix: WATER

Date Reported: 03-JUN-93

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 2 Amber Glass

PARAMETER	RESULT	UNITS	RDL	REP	METHOD	DATES PREP ANALYSIS
Hydrocarbons, Total	ND	mg/l	0.50	1	418.1	02-Jun 03-JUL

Comments: * Complete list of References found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA 086 NH 198958-A CT PH-0574 NY 11148 NC 320 SC 88006 RI A65

Laboratory Sample Number: L9304105-04

Date Received: 20-MAY-93

QA-4

Sample Matrix: WATER

Date Reported: 03-JUN-93

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 2 Amber Glass

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATES PREP ANALYSIS
Hydrocarbons, Total	ND	mg/l	0.50	1 418.1	02-Jun 03-Jun

Comments: * Complete list of References found in Addendum I

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE DUPLICATE ANALYSIS

Laboratory Job Number: L9304105

Parameter	Value 1	Value 2	RPD	Units
Hydrocarbons, Total	DUPLICATE for sample(s) 01-04			
	0.60	0.60	0	mg/l

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE SPIKE ANALYSES

Laboratory Job Number: L9304105

Parameter	% Recovery
-----------	------------

Hydrocarbons, Total	SPIKE for sample(s) 01-04
---------------------	---------------------------

97

ALPHA ANALYTICAL LABS
ADDENDUM I
REFERENCES

1. Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. 1986.



Date	1/15/20
------	---------

1= Ice
2= H₂SO₄
3= HNO₃
4= HCl
5= Other

For Analytics use only:

Samples were:

- 1) Shipped or Hand-delivered
2) Ambient or Chilled
3) Received in good condition:
Y or N _____

4) Properly preserved:
Y or N _____
5) Received within hold time:
Y or N _____

Received by: Jeffrey J. Marshall
Received for lab by: SS 5720 715

Time:	7:05 PM	5/1/12
-------	---------	--------

Date: 5/18/93

Relinquished by: [Signature]
M.C. Givens

TERMS and CONDITIONS

SHEVENELL GALLEN and Associates, Inc. (Company) proposes to perform the services described in the attached Work Plan at a charge pursuant to the attached Fee Schedule and under the conditions and circumstances as are set forth herein as follows:

1. **Billings/Payment:** Invoices for Company's services shall be submitted at Company's option, either upon completion of such services or at the end of each calendar month, and mailed to Client at the address indicated above. All such invoices shall be payable upon receipt, and in the event that payment is not duly made within fifteen (15) days, the outstanding balance shall bear interest at the rate of one and a half (1.5%) per month from date of original billing or at the highest interest rate permitted by law, whichever is less. It is further understood and agreed that if Client fails to pay any invoice due to Company within thirty (30) days after the date thereof, Company, without waiving any other claim or right against Client, and without liability whatsoever to Client, may terminate its performance hereunder. In the event that Company places any invoice which is unpaid after the due date, with an agency or an attorney for collection, Client shall pay all costs and expenses of such collection, including without limitation attorney's fees and court costs, if any.

2. **Limitations:** Client recognizes that Company's services are solely for the benefit of Client and require decisions which are not based upon pure science but rather upon judgemental considerations. Company shall perform its services in accordance with generally accepted practices. Client agrees that such services shall be rendered without any warranty, expressed or implied, and that Company shall be responsible solely for its own negligence.

3. **Professional Liability:** Client agrees to assume the defense of and to indemnify and hold harmless to such extent as will limit any and all liability, claims for damages, cost of defense, or expenses which may be brought, levied against, or incurred by Company on account of any claimed error, omission, or negligence to a sum not to exceed the aggregate of Company invoices submitted hereunder. Client further agrees to notify contractor or subcontractor who may perform work in connection with any report or study prepared by Company, of such limitation of Professional Liability for errors, omissions, or professional negligences, and to require, as a condition precedent of their performing work, a like indemnity and limitation of liability on their part as against Company. In the event that Client fails to obtain a like indemnity and limitation of liability, any liability of Company to such contractor or subcontractor arising out of alleged error, omissions or professional negligence shall be allocated between Client and Company in such a manner that the aggregate liability of the Company to all parties, including client, shall not exceed the aggregate amount of invoices submitted hereunder.

In the event that the Client makes claim against Company, at Law or otherwise, for any alleged error, omission, or act arising out of the performance of Company's services, and the Client fails to prove such claim upon final adjudication, then the Client shall pay all costs incurred by Company in defending itself against such claim, including, without limitation, personnel-related costs, attorneys' fees, court costs, and other claim-related expenses, including, without limitation, costs, fees and expenses of experts.

Company will not be liable for damage or injury arising from damage to or interference with subterranean structures (including without limitation, pipes, tanks, telephone cables, etc.) which are not called to Company's attention and not correctly shown on the plans furnished by Client in connection with work performed under this Work Plan.

4. **Right of Entry:** Client hereby grants to Company or represents and warrants (if the project location is not owned by Client) that permission has been duly granted for the Right of Entry from time to time, by Company, its agents, staff, consultants, and contractors or subcontractors, upon the project location for the purpose of performing and with the right to perform all acts, studies, and research, including without limitation the making of test borings and other soil and water samplings, pursuant to the Work Plan. The Client hereby recognizes that the use of exploration equipment may unavoidably affect, alter, or damage the terrain and affect vegetation, buildings, structures, and equipment in, at, or upon the area being studied. Client accepts the fact that this is inherent to Company's work and will not hold Company liable or responsible for any such reasonable effect, alteration or damage.

5. **Public Liability:** Company represents and warrants that its staff are protected by Worker's Compensation insurance with statutory limits; and that Company has such coverage under Public Liability and Property Damage insurance policies which Company deems adequate. Certificates for all such policies of insurance shall be provided to Client upon written request. Only within and only to the extent of the limits and conditions of such insurance, Company agrees to indemnify and save Client harmless from any claims, demands, suits, or liabilities arising from any negligent acts by Company, its agents, staff, contractors or consultants employed or engaged by it. In no event shall Company be liable or responsible for any loss, damage, or liability, including but not limited to fire and explosion, beyond the amounts, limits, and conditions of such insurance, or if such loss, damage, or liability is excluded from such coverage of such insurance.

6. Duty of Client: Client agrees to defend and save Company harmless from all liability, claims, demands, and suits, including expenses of suit and reasonable attorneys' fees, arising from personal injuries, including disease and/or death, property loss or damage, injuries to others (including personnel of Client and of Company, its contractors and subcontractors performing work hereunder), or from air, water, or ground pollution or environmental degradation arising out of or in any manner connected with or related to the performance of this Work Plan, except if such injury, loss, or damage shall be caused by the sole negligence or willful misconduct of Company, its employees, agents, or representatives.

It shall be the duty of Client to advise Company promptly of any known or reasonably knowable hazardous substances or any condition existing in, on, or near the premises upon which work is to be performed by Company's employees or subcontractors that presents a potential or possible health hazard or nuisance. If Client fails to advise Company or, notwithstanding such advice, unanticipated occurrences of such substances or conditions are discovered during the course of the work, and such discovery in the judgement of Company results in or may result in injury or a health risk to persons, whether Company's personnel, Client's personnel, or others Client agrees that it shall assume full responsibility and liability and shall hold Company harmless from any or all claims, demands, suits, or liabilities for personal injury including disease, medical expenses, including but not limited to continued health monitoring and/or death, property damage, economic loss, including consequential damages.

If any unforeseen hazardous substances or other unforeseen conditions are encountered during execution of the work which, in the judgement of the Company, significantly affect or may affect the work or the recommended Work Plan, Company will notify Client as soon as practicable. In that event, Client and Company agree to pursue one of the following: (1) If practicable, in the judgement of the Company, complete the original Work Plan; (2) Modify the Work Plan and budget estimate to include study of the previously unforeseen conditions, with this Contract being amended accordingly and in writing; or (3) Terminate the Work Plan. In the event of termination, Client agrees to pay Company in full for all work completed and fees due until written termination notice has been received by Company and to pay all costs incurred by Company prior to and in connection with discontinuing the work hereunder, such as completion of files and preparation of a written report to Client of findings to date of termination and all costs associated with subcontract termination.

7. Confidentiality: Company will not knowingly release information regarding work for client, except for information that is in the public domain or is provided by third parties, to any person other than Client and to persons designated by Client. Company may notify Client of conditions, if identified, which in Company's professional opinion, may present a potential public health or public safety hazard. It is the Client's responsibility to release and to notify appropriate public agencies in a timely manner of any information that may be necessary to preserve public health or public safety or in order to limit future public risks. Client agrees to hold Company harmless against any and all claims, demands, suits, or liabilities as a consequence of release of the information which may be necessary to preserve public health or safety. Notwithstanding the above, Company will exercise its best efforts to comply with any federal, state, county, or municipal law, regulation, ordinances, or legal obligations regarding the reporting of findings to appropriate public agencies. Client agrees to hold Company harmless against any and all claims, demands, suits or liabilities resulting from such actions by Company.

8. Opinions of Probable Clean-up and Disposal Costs: The Company may give opinions of probable clean-up and disposal costs as part of the Work Plan. These opinions may also involve approximate quantity estimates. The Client understands and agrees that quantity estimates are not accurate enough for clean-up and disposal bids. Company does not guarantee or warrant the accuracy of estimates of probable clean-up and disposal costs as compared to bids of Contractors, or compared to actual clean-up and disposal cost.

9. Documents: All reports, boring logs, field data, field notes, laboratory test data, calculations, estimates, and other documents prepared by Company as instruments of service shall remain the property of Company. Client agrees that all reports and other work furnished to Client or its agents, shall be utilized by the Client solely for the purposes of the contemplated project. Any documents prepared by Company which are not paid for by Client, shall be returned upon demand and shall not be used by Client for any purpose whatsoever. The Company will retain all pertinent records relating to performed services for a period of two (2) years following submission of the report, during which period the records will be made available to the Client at Company's Office at all reasonable times. Copies will be prepared by Company for Client for reasonable cost of reproduction.

10. SHEVENELL GALLEN and Associates, Inc., is an Equal Opportunity Employer.